



The World Book Encyclopedia



World Book International

World Book Inc.

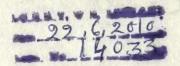
A Scott Fetzer company

London Sydney Tunbridge Wells Chicago



The World Book Encyclopedia (International)

© 1996, 1995, 1994, 1993, 1992, World Book, Inc. All rights reserved. This volume may not be reproduced in whole or in part in any form without prior written permission from the publisher.





"World Book" Reg. U.S. Pat. & T.M. Off. Marca Registrada ISBN 0-7166-6696-0 Library of Congress Catalog Card Number 95-61137

Printed in the United States of America

1 2 3 4 5 99 98 97 96

About this volume

This volume consists of three basic parts:

An instructional section, A Student Guide to Better Writing, Speaking, and Research Skills

A comprehensive index to World Book

A page-by-page list of picture credits

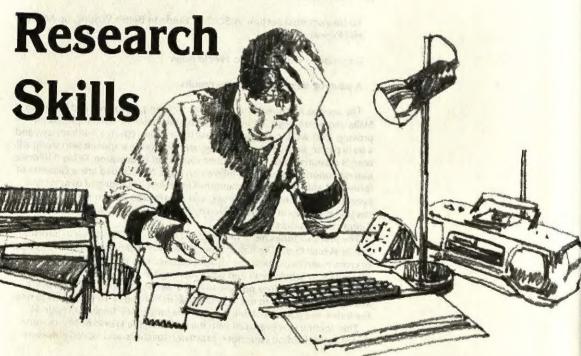
The section A Student Guide to Better Writing, Speaking, and Research Skills begins on page 2. It includes practical advice on such topics as improving your writing skills and preparing a short report, a book review, and a term paper; preparing, rehearsing, and delivering a speech; and using a library's resources and tapping other sources of information. Related information on conducting research follows on page 26. Included are: a Glossary of terms and abbreviations encountered in research; a listing of general and specific Selected reference books; and information on two systems for arranging materials in a library—Dewey Decimal Classification and Library of Congress Classification.

The index includes more than 100,000 entries that direct you to information in *World Book*. The index, together with *World Book*'s extensive system of cross-references, its single alphabetical arrangement, and its other ease-of-use features, helps you find what you want to know quickly and easily. For general instructions on how to find a fact or an article in *World Book*, see the section "How to use *World Book*" in Volume A. To learn how to use the index, see page 39 of this volume. The index itself begins on page 41.

This volume was prepared with the advice of the World Book Advisory Board, other leading educators, practising teachers, and skilled librarians.

A Student Guide to Better

Writing, Speaking, and



Do you panic when faced with a writing assignment? Are you nervous about getting up to speak before a group? Do you sometimes find it difficult to find the right research materials? You're not alone. Many students have the same problems. That's why we developed this section—to help you improve your skills in these important areas.

A Student Guide to Better Writing, Speaking, and Research Skills begins with an explanation of what "communicating" means. Next come the three main parts. Part one, A Guide to Writing Skills, includes practical tips to help you become a better writer. It explains how to prepare written work such as a report or essay. It takes you through the various stages from making an outline to reading the first draft to check such points as content and spelling. It also gives advice on preparing footnotes, a bibliography, and front matter (contents), and suggests the best way to set out the finished version.



Part two, A Guide to Speaking Skills, covers the six basic steps in preparing a speech. It also provides useful information on the different kinds of speeches and easy-to-follow tips on rehearsing and delivering a speech. The section concludes with helpful hints on the effective use of audio-visual aids.

A Guide to Research Skills, part three, helps you use a library's resources fully. It includes detailed information about catalogue systems and on such specialized indexes as The Readers' Guide to Periodical Literature. It tells how to evaluate reference sources and how to prepare bibliography cards

and take notes. The section provides guidance for tapping sources of information outside of the library, such as conducting an interview or using television as a source.

A Student Guide to Better Writing, Speaking, and Research Skills concludes with a Glossary of terms and abbreviations often encountered in research; a list of general and specific Selected Reference Books, and detailed information on library classification systems, particularly the Dewey Decimal Classification.



Contents

Communicating4	A
A Guide to Writing Skills 6	P
Before You Start6	R
Writing Clearly and Logically 10	
lips for good writing11	A
Good grammar	L
Editing and revising14	(

A Guide to Speaking Skills	20
Preparing a Speech	
Rehearsing and Delivering a	
Speech	.23
A Guide to Research Skills	26
Libraries in the Community	.27
Using Reference Materials	.30

Preparing Bibliography Cards	32
Taking Notes	33
Other Sources of Information	33
Related Information	
Glossary	35
Selected Reference Books	36
Dewey Decimal Classification	



Communicating

Communicating is something you do all the time. How well you communicate depends on your writing, speaking, and research skills. The better these skills are, the more effectively you will communicate. This introduction describes communication in speech and writing. Later guides suggest some of the things you need to do to write and speak well. They also give some tips on how to do research.

The guides will help you prepare the different kinds of written and spoken reports that you may have to make, at school or at work. Such reports will become just another one of the many ways in which you communicate. At school, at college, or at work you will need to prepare different kinds of written and spoken reports. You may have to write an essay, a project paper, or a thesislength dissertation. You may have to speak at a meeting, or make a spoken report to a teacher, fellowstudents, or colleagues. You will want to communicate effectively.

How Communication Works

Communicating is part of every-day life. Mostly you use words to communicate: by speaking or writing. But sometimes nothing is said or written, because you convey a message nonverbally (without words). You can do this by an action (when you hug a friend), or by a gesture (when you wave to someone), or by a grimace (when you wrinkle up your nose to express reluctance or distaste).

Why people communicate. People have a purpose when they communicate. Sometimes the purpose can be quite vague—as when you are chatting to friends, for example. Often, you do not have anything particular to tell them. In this case, your purpose in communicating is more social than informative. At other times, however, the purpose

can be quite specific. You might want to express exactly what you think or feel about something.

At school, you have to prepare many different kinds of reports. These reports can be written or presented *orally* (spoken). Whether written or spoken, they are important forms of communication. In them, you attempt to show what you think, as well as how much you have learned. They also reveal how well you can present your ideas.

The tone you use in communicating can vary, from the intensely personal to the highly impersonal. The style you use to express yourself can vary, too, from casual and informal to deliberate and formal. It all depends on what you want to communicate (the message) and those to whom you want to communicate it (the audience). The more formal kinds of communication are more difficult than informal kinds, but they involve skills that can be learned.

Public or private? How we communicate depends on our audience. It also depends on whether the message is public or private, and whether we are speaking or writing. Speaking privately to friends or to members of your family, your tone is intimate. You know that you will be understood because the person you are talking to shares the same background of experience as you. So you need not worry about whether what you say is grammatically correct. Nor do you worry about how precisely you have said what you mean. You may use slang, leave sentences incomplete, repeat words and phrases, and interrupt yourself, saying "you know", "kind of', "sort of', and similar expressions. You may wave your hands, and use other body language for emphasis, or because you cannot quickly think of the right words.

In private conversation, everyone behaves in this way quite naturally. But people do not write in such a way. Nor could you speak as informally and intimately to a group, or if you were addressing a stranger.

Conversation. Conversations are highly interactive. The people to whom you are speaking respond constantly to what you are saying. They nod agreement, for example. or interrupt to comment. Consequently, though your style of talking is informal, you are communicating effectively; you are clearly being understood. A stranger listening to an intimate, friendly conversation, however, would frequently be in the dark about what was being said.

If you wished to include a stranger in your conversation, you would adopt a less intimate tone than the one you use when speaking to your friends. For a stranger's benefit, you would try to fill in some of the "background" that you normally take for granted. You need to collect your thoughts in an orderly way, and to speak correctly to be sure of being understood. Although to some extent your tone is still personal, your style is now more formal.

Tone and style when talking. We adjust our tone and style when we talk to different people. Usually we are not aware of how easily we do this. We make such adjustments automatically and frequently.

Think of telling a joke privately to a close friend. Your tone is different to the one you use when answering a question in class. Or imagine that you are trying to explain your views on something to a much older person at a family gathering when everyone suddenly stops talking to listen! In each of these cases, the way you speak will be different. The tone you use will vary from the personal to the less personal. Your style of speaking will also vary, from being casual and easy-going to more formal and self-conscious. How you speak may even change in mid-flow as you become aware that other people are listening!

Giving a talk. The most formal kind of spoken communication is a public speech. A public address is intended to produce a special effect on an audience. Often the purpose of a speech is to persuade the audi-

ence to your point of view. Think of a lawyer in a court of law, or a politician in parliament, or a debating team in a school competition! Making an oral presentation in class is similar. You have to organize and present ideas in an orderly and convincing manner. A good oral presentation is usually carefully structured. Of course, its overall effect depends not only on what is said but on the way it is said. This is called "delivery." Good delivery is a matter of clarity in speaking and of timing. It is also a matter of how the voice. and physical gestures, are used to give variety and emphasis.

Writing and talking. Written communication is usually more formal in style than spoken communication, because the message must be got across in words alone. Effective writing requires knowledge of grammar and the ability to use words skilfully. Even when very personal in tone, as in a letter to a friend, a written message cannot make use of any of the nonverbal aspects of communication that are naturally part of speech. Nor can it take advantage of the immediate "feedback" available when we are speaking. Writing has to be complete in itself. As a result, it is more difficult than speaking.

Some people think that writing and speaking are quite different. They are not. Often, good writing has the ease and naturalness of speech. When it becomes difficult for you to write down your ideas, it can help to say out loud what it is

that you are trying to express. The reverse can also be true. If you write a draft of what you want to say in an oral presentation, you can test whether your ideas are clearly expressed and well-organized.

Sometimes people "freeze", and become tense and anxious at the idea of writing a report. Others have a similar reaction to the idea of speaking in public. These are normal reactions when we have to do something that is not familiar and ordinary. But remember when this happens that the formal kinds of communication are basically similar to other kinds of communicationwith which you are experienced and confident. Remember, a major part of your life is spent in communicat-

Communication and success.

The more formal and public forms of communication are difficult, but extremely important. Success at school and college, and later in a job, can depend on being able to communicate effectively. Fortunately, good writing and speaking depend on skills that everyone can learn. Like all skills, communication skills improve with practice. Moreover, learning and using them can be fun. Think of your pleasure and sense of achievement when, after a lot of practice, you give a good performance on a musical instrument or when, having trained hard, you perform well at a sporting event. Believe it or not, making a speech or presenting a written report can be just as satisfying!

"Success . . . can depend on being able to communicate effectively."



Writing Skills

Most of the writing that we do has to meet various requirements. This is as true in the business world as in school. In school, unlike the business world, these requirements are usually clearly stated. If you do not meet them you will be penalized. The first thing any good writer must do is to analyse these requirements.

Before You Start

Before you begin to write an essay, a project paper, or a report of any kind, ask yourself these questions. Make sure that you know the answers before you even think of putting pen to paper, or sitting at the typewriter or word-processor.

What is the topic? Sometimes this is quite straightforward. There is no choice. You are asked to write

on only one topic or subject. Even so, examine the topic closely to see exactly what is wanted. Sometimes, however, you will be given a choice from a list of subjects. On other occasions you will be given the option of writing on anything you like. If you have a choice, choose a topic that interests you and about which you know something already. This gives you a good starting point.

How long? The length of a report may be given in numbers of words or in numbers of pages. If you write too much or too little, usually no one will mind, but you should aim for the target.

The length is important, because how much you have to write will influence how you approach your subject. You will have to select the points you want to make and the amount of discussion that you can include according to the amount of

space available. While it is possible to write on "The History of the Universe" in 2, 10, or 25 pages, the results would be very different. The shortest account, for example, would be the most general. It would touch briefly on a few main points. Short reports on large and general topics are usually hard to write. A short report needs a specific topic—for instance, "Life aboard the space shuttle" would be simpler than "The U.S. space programme".

What kind of a report? A personal report expresses your own opinions or feelings about a social problem, such as homeless children, or about something important to you, such as a hobby or an experience you have had. In this kind of report your own views are what is important. The tone of your report will be personal.

An expository report presents in-



formation in a more objective, impersonal way. You might be asked to summarize a book you have read. for example. Or you might be asked to analyse a process, like the circulation of the blood, or explain an historical event, like the murder of Julius Caesar. In the personal report it would be fine to begin "My holiday was so awful I couldn't wait to come back to school." It would not be appropriate, though, to begin the more formal report: "I was so upset when Brutus stabbed Julius." Your own feelings and opinions are not relevant here. Rather, you might begin: "To explain why Brutus, supposedly Julius Caesar's friend, joined in the plot to murder Caesar, we have first to understand the diverging political views of the two men."

A critical report is a mixture of personal and the expository. You present the information you have found about a subject, but you also analyse what the information means from a particular point of view. You express your own opinions. Suppose you have to write a report on the impact of nuclear power stations on the environment. You would have to decide for yourself what the evidence about this issue really means.

Presenting your ideas. By knowing clearly what kind of report is required, you can judge the tone that is most appropriate. You can also decide on the best way to present your ideas. You might present them:

- as an argument for a position (nuclear power stations are not an environmental hazard, despite the evidence to the contrary);
- as a narrative of events (the story of Julius Caesar);
- as an exposition of the facts about something (daily life aboard the space shuttle).

When is the report due? Planning, and finding information, take time. You will need time for writing one or more drafts, for revising the drafts, and for writing or typing the final copy in the format required. An important rule here is: plan ahead! If you do not plan ahead, you may have to rush to finish your report. The report might not be as well written or as well-presented as you could have made it if you had given yourself more time.

Presentation of the work.

There may be special requirements for presenting your paper.

- 1. Does it have to be typed?
- 2. Do you have to refer to your sources of information? If so, how must you do this? Do you have to provide footnotes and a bibliography?

- 3. Is there a special format for footnotes and the bibliography?
- 4. Does the paper require a separate title page or cover sheet? What information needs to be on this page?

Getting started. After you have chosen your topic, and checked what kind of report has to be presented, how long the report has to be and when it is due, the next step is to get started. Sometimes this can be difficult, especially if you do not know much about the topic. Here are some suggestions:

- Talk to your friends and parents. They will have comments and suggestions that will give you ideas. Talking through your own ideas with others will also help.
- 2. Look up the topic in World Book. Encyclopedias are a good place to start finding out. Check the index to find articles related to the topic. As you read, jot down the main points. These will help you organize your thinking about the topic, and will suggest additional information you will need.
- 3. Do some further background reading in the library. Check the catalogue or browse the shelves of your local library. The books that you find will suggest aspects of the subject that you will want to explore further.
- 4. Think up questions that you would like answered. This will help guide your search for information. The questions will keep your research on track. You will not lose time by becoming side-tracked.

Asking questions. How to ask questions depends in part on what your topic is about. Is it about:

- 8 Writing Skills
- an object or process (such as container ships or the circulation of the blood)?
- an abstract concept (such as religious freedom or intelligence)?
- 3. an event (such as the murder of Julius Caesar)?
- **4.** a general *proposition* (such as that nuclear power stations pose a threat to the environment)?

Often your topic will be complex, and will involve several or even all of the above! Analysing it in this way, however, will help you determine a general approach. As a guide, we suggest four kinds of approach: descriptive, analytical, chronological, and polemical.

- A simple descriptive approach might be enough for an object.
- An analytical approach to an abstract concept systematically examines it from various points of view.
- A chronological approach concentrates on the sequence of events over time.
- 4. A polemical approach (an aggressively argumentative approach) would be appropriate if you have to try to prove or disprove a proposition, or are adopting a position that you must defend.

To treat some subjects adequately, you will have to adopt a combination of approaches. For ex-

"Avoid

aimless reading . . .

. . . read with

a purpose!"

ample, you might need to describe a place or object. You might then have to chronicle events that involved either the place or the object. These events might illustrate a concept which you would proceed to analyse. Finally, you might want to argue in a polemical way for a particular position on this concept, and against those who oppose it.

What kind of questions? You will want to know what an object's structure is and how it was produced. It might be interesting to know how it is like, and how it differs from, similar objects. You might want to know what it is used for, where, and who uses it.

You might want to know how a concept has been defined and how definitions have varied from time to time or place to place. You might also want to know why the concept is important, what other concepts it is related to, and how it affects people.

You will want to know why an event happened, what led up to it, what actually took place, when, and where, who was involved, what its consequences were, and what other events it was related to.

You will want to know what the various parts of the proposition mean, and what the implications are if the proposition is true or if false. You will want to find out what kinds

of arguments have been put forward to support or deny it, what groups or interested parties have used these arguments, and why.

Question-words. The words, who, what, how, where, when, and why are very useful. They are called interrogative pronouns ("who" and "what") or interrogative adverbs ("how", "when", "where", and "why"). Fire these useful questionwords at aspects of a topic that you don't know much about, and you can soon begin to make something of it.

Suppose you have to discuss the murder of Julius Caesar. Who was Julius Caesar? Why was he important? What did he do? Who was involved in his murder? What was the situation before the murder? What actually happened? What did the various people involved do, for example? How did they do it? What was the sequence of events? Where did these events take place and when? Why did these people act as they did? What were the consequences of their actions? How do we know ail of this? Why is it considered to be important? What explanations have been offered for what happened, and by whom? How plausible are these explanations?

Suppose that you have to decide whether nuclear power stations pose

a threat to the environment. You can ask questions about the stations themselves. What are they? Whu were they set up, where, when, and by whom? How many of them are there? How do they work? How much electricity do they generate? What do they cost to run? How are they similar to and different from conventional power stations? Then you can ask questions about the possible threats they pose. What kinds of threat? Whom or what do they threaten? When are they a threat and how? Who says so, why do they say so, and how do they know?

If you begin your research with questions of this kind, you will be looking for specific information to answer the questions. Looking for specific information will help you to avoid aimless reading around a subject. This wastes time. It can also become demoralizing because the subject will seem to get bigger as you begin to accumulate lots of unorganized bits of information. The rule here is: read with a purpose! Of course your reading will itself prompt lots of questions. It will also help you to decide which ideas are worth following up.

Preliminary outline. When you analyse your subject and work out a basic approach to it, write down in outline form the main points or topics that you want to discuss in your paper. The questions given above can help you to draw up these points. Instead of noting them in point form, you could set them down as questions.

As you learn more about your subject, you will add to or modify this outline. Have a sense of direction in your research, and gradually build up a picture of how you would like your paper to be structured. The preliminary outline should be simple. You will almost certainly change it as you explore your topic in greater depth.

Researching the topic. You need to find interesting and accurate information to answer the questions that you have posed about your topic. Researching the topic involves finding sources that will tell you what you want to know.

Sometimes the encyclopedia articles you used may refer you to other sources by providing a bibliography. This is a list of books and articles on the subject. The library catalogue at your school, college, or public library will tell you what books the library has. In the library you can also check indexes to periodicals. such as The Reader's Guide to Periodical Literature, and indexes to newspapers. In addition to books and periodicals, most libraries have records, films, maps, and videos. They also maintain files of pamphlets, newspaper clippings and other ephemera (short-lived) materials. Depending on the topic you are researching, you may find some or all of these different sources useful.

You may find that you have to locate other sources for the particular information you need. Maybe the best information for your purposes will come from an interview, or a survey, or from a government publication that you have requested by mail. Valuable information may turn up in surprising places. The notes on a record cover or in a CD (compact disc) could contain interesting details about the history of rock music or about the careers of the artists.

As you find and begin to check various sources, you should prepare a working bibliography. This is a

list of sources you want to examine for more information about your subject. Your working bibliography will grow as one source leads to another.

For each source you locatebook, article, pamphlet, record, tape, video, and so on-prepare a bibliography card. Follow the instructions given on page 34 for doing this. These cards will be easy to organize and alphabetize when you prepare your final bibliography. If a source does not provide useable information, draw a line through the card for that item. But keep the card so that you will have a record of every source that you have checked on your research.

Taking notes. As you read, take notes of the information that seems relevant. Taking notes serves two major functions. First, it helps you to remember the important points in what you have read. Second, it allows you to quote accurately from your sources and to identify them precisely. Most people take notes on index cards, though you may prefer to use a pad or notebook. Cards are easier to arrange and re-arrange when you begin the actual writing of your paper.

See "A Guide to Research Skills" on page 29 for more detailed information on how to use the library, and on how to get information from other sources. The Guide also gives specific instructions on how to take good notes.

A problem you will have to face is to decide when to stop doing research-because you have enough information. Regularly reviewing your notes, and keeping your outline up to date will help you make this decision. You do not want more information than you can handle.

Writing Clearly and Logically

All good writing has a logical structure. It is organized so that it conducts the reader by a convincing arrangement of ideas, from the beginning through the middle to the end. The ideas should flow naturally and logically, one to another. If they do, the reader can follow "the argument" easily.

How can you achieve this effect? A start is to have a detailed outline of the major ideas you will discuss. The outline keeps clear in your mind how the paper is to be structured. It will also make sure you do not forget any of the major points you wish to make.

The outline that you have been developing as you have carried out your research may be enough to guide your writing. Sometimes, however, this preliminary outline needs to be reworked in greater detail. You may need to reorganize it to give you a clearer picture of how the ideas and information in the paper will be arranged. The outline is a detailed table of contents, just like those in books.

In preparing the final outline, review all your notes. Arrange them in logical order, and group them into the major sections of the paper. Under these main topics you should list the sub-topics related to them.

Sometimes you may be required to submit an outline with your

paper. Even if this is not so, draw one up for yourself before you begin to write. Make sure that the headings and sub-headings are set out in a clear and consistent way. Our example (see box, right) is of an outline for a paper on "Classroom use of computers to improve writing skills".

A well-structured paper has a beginning, a middle, and an end. This may seem obvious, but can easily be forgotten. A good paper will have an introduction, a main section or "body", and a conclusion.

The introduction gives some of the background to your subject, and states what your paper is about. The statement of what your paper is about is your thesis. It presents the main point that you want to make in the paper. If the topic has been given to you as a question, the thesis statement will indicate what your answer will be.

Usually in the introduction you will also give some indication of the approach you will take to develop your "argument". The introduction will indicate that you will:

- 1. Describe or present information or evidence about something.
- Analyse its importance or significance.
- Argue that certain conclusions follow.

"A well-structured paper has a beginning, a middle, and an end."

1. Introduction

- A. Widespread availability of computers
- Wide range of general applications
- C. Various uses in education
- Thesis: Computers could improve writing skills, but their use in schools is held back by serious problems
- Possible uses in the classroom for writing
 - A. Grammar drill and practice
 - B. Spelling drill
 - C. Word processing
- 3. Benefits to students
 - A. Individual instruction
 - B. Immediate feedback
 - C. Student interest and motivation
- 4. Problems
 - A. Cost of hardware
 - B. Availability of appropriate software
 - C. Space
 - D. Teacher resistance
- 5. Conclusion

Thus, the introduction tells the reader what to expect in the rest of the paper.

The body of the paper sets out the points that you wish to make. You also present the supporting facts, the details, the examples, the evidence that you have found. This will be the longest section of your paper. It is very important that each paragraph in the body of your paper contains a separate, major idea. Each paragraph must also be clearly and logically related to the previous paragraph. If this is so, the reader can easily understand the flow of ideas.

A major problem here is to decide on the amount of information or the level of detail that is needed. If you have too much, the reader can lose the point of what you are saying. When this happens, the information presented hasn't been "digested" properly. If you do not have enough information, the paper will not be convincina.

The conclusion briefly recapitulates (restates) the main points of your paper. You present your conclusions. As well as looking back to what you have said in the body of the paper, you may also look forward to what might flow from the conclusions you have drawn. They will have important implications. What are they?

The conclusion is a kind of summing up. Make sure that what you of the paper. Your conclusion must follow from the evidence and arguments you have presented.

Tips for good writing

You have analysed your subject and decided the approach you will adopt to it. You have collected enough information to answer the various questions you have posed about it. However, once you are writing, you may have to find more information to support a crucial point. You have drawn up a detailed outline that shows the order and relationship of the ideas, and information that you want to present.

It is time at last to uncap your pen, or scroll paper into the typewriter, or switch on the word processor and begin.

Good writing is grammatically accurate. It is simple, logical, and direct. It always reflects the personality of the writer. It captures and holds the interest of the reader because of what is said and how it is said.

In good writing the right words are chosen. These words are put together to form complete sentences. In their turn these sentences are arranged into coherent paragraphs.

Finally, paragraphs are linked together so that the paper becomes a logical and persuasive whole. Its content seems to flow naturally from idea to idea, from beginning to end.

Aiways be yourself. Don't use words or expressions that do not sound right. This doesn't mean that you should not experiment with new words, or ways of expressing yourself. You will make mistakes sometimes. Mistakes don't matter-if you learn from them. But avoid using words and phrases that seem more impressive than those you would normally use, especially if you are not quite sure of their exact meaning. Saying out loud what you have written can help you decide if it is natural and flows easily.

Learn from experts. You can learn a lot from great books. Read the best kinds of writing in fiction and nonfiction, and your own writing will improve. But don't try consciously to imitate or copy.



Be simple. Don't use "roundabout" phrases when a simple word will do. For example,

At the present time simply means today or now until such time as means until despite the fact that means although

in the vicinity of means near or around

due to the fact that means because first and foremost means first members of the female sex are women

to have a need for something is to need it

to give encouragement is simply to encourage.

Don't use clichés. These are figures of speech that are so overworked they no longer have a distinctive meaning. Detecting them takes a special effort. Here are some examples:

fit as a fiddle means fit costs the earth means expensive busy as a bee means busy like a bull in a china shop means clumsy or awkward or even insensitive.

Be careful when you use figures

of speech. Such phrases should be colourful, apt, and consistent. We use figures of speech when we express something in terms of something else or use words in such a way that they take on a special meaning.

There are a great many different kinds of figures of speech. Among the most common are comparisons using the words "like" or "as". "The building was like a great ship anchored in a sea of wheat". "His laughter was as raucous as a kookaburra's." These explicit comparisons are called similes.

When the comparison is *implicit*, and is not introduced by "like" or "as", the resulting figure of speech is called a *metaphor*. For example, "the newcomer was a lamb among wolves"—meaning he or she was innocent, or helpless, among stronger and perhaps dangerous companions. A famous example of an inconsistent, or mixed, metaphor is in one of the speeches in Shakespeare's play, *Hamlet*. Hamlet wonders about taking "arms against a sea of troubles and, by opposing, end them." A mixed metaphor can.

unintentionally, be funny when the reader realizes what has actually been said.

Don't use *slang* in a written paper. Slang is used quite naturally in speech, especially in informal situations. It is generally not appropriate in a written paper.

Don't use the passive voice, unless there seems to be a good reason to do so. Take the sentence: "The belief was held by Brutus that the Roman republic was about to be betrayed by Julius Caesar". Here the passive voice robs the sentence of immediacy. It is simpler and more direct to write: "Brutus believed that Caesar was about to betray the Roman republic".

Use simple but strong words, especially verbs. Suppose the sentence above began: "Brutus was concerned that . . ." or even, "Brutus thought that . . ." The verbs "was concerned" and "thought" do not tell the reader nearly as much as "suspected" or "believed" or "was convinced". Was Caesar done to death (a cliché and to be avoided), killed (weak), murdered (better), or stabbed to death (more vivid)?

Good grammar

If what you write is not grammatically correct, you can confuse your readers. Grammatical errors may even change the meaning of what you are trying to say. Here are some tips on grammar.

Using sentences. Always use complete sentences. A sentence should have a *subject*, which is what the sentence is about, and a *predicate*, which tells the reader something about the subject. For example: "Nuclear power stations (subject) are usually built in remote locations (predicate). If the sentence is complete, you have presented a complete thought which the reader will be able to understand. If the sentence is incomplete, the reader will not be sure of what you mean.

Sometimes writers incorrectly run

together two or more independent clauses (a clause is part of a sentence that can stand alone because it has a subject and predicate, like a sentence). It is equally incorrect to separate such clauses with a comma. Here is an example, "Nuclear power stations are built in remote locations, they contain nuclear reactors, they can be dangerous."

Simply indicate by means of full stops (periods) that the clauses are complete, and can function as sentences. "Nuclear power stations are built in remote locations. They contain nuclear reactors. They can be dangerous." In this example, however, the separate short sentences are awkward. They are also not clear. The first "they" seems to be referring to "locations," while the

second "they" could be referring to either the stations or the reactors (see the section on antecedents, below). To improve this passage, we need to express a relationship between the clauses so that the sentence gives more information. "Because they contain nuclear reactors, which can be dangerous, nuclear power stations are built in remote locations."

Test. If two or more independent clauses are run together, or are linked by commas, ask yourself if a full stop or period should be placed between them or if the ideas should be reworked into a single sentence.

Fragments are incomplete, because something has been left out. "Nuclear power stations in remote locations." The simplest way to cor-

rect this is to make the phrase into a complete sentence: "Nuclear power stations are built in remote locations." But if the phrase as a whole is treated as the subject, a different predicate might tell the reader much more. "Nuclear power stations in remote locations do not present a hazard to towns or cities."

Test. Ask yourself if the passage could form a complete sentence more or less as it stands or should

be added to.

Agreement. A subject and a verb must agree in person (1st- or we, 2nd-you, and 3rd-he, she, it or they); and in number (singular or plural):

Number: The power station is nearby (singular); the power stations

are nearby (plural).

Person: I am careful (1st person singular): You are careful (2nd person singular); He, she, it is careful (3rd person singular); We are careful (1st person plural); You are careful (2nd person plural); They are careful (3rd person plural).

It is sometimes hard to decide whether something is singular or plural. Note that either, neither, each, nobody, anybody, someone, no one, and none are treated as singular. On the other hand, both, few, manu, and several are treated as plural. "Neither of the power stations were built recently" is wrong because "neither" is singular. "Both of the power stations were built recently" is correct because "both" is plural.

If the subject is separated from the verb, errors of agreement can easily arise. "The report on the dangers and uncertainties of nuclear power stations were ignored" is wrong. The report, which is singular, was ignored. If two singular nouns are joined by and they take a plural verb. This is obvious with simple nouns. "The minister and his adviser support nuclear energy." More complex subjects can be tricky. "The claim of the local government association, which received much press coverage, and the report of the gov-

ernment's chief scientist, which he submitted privately to the minister, are not contradictory".

Test. Ask yourself who or what is the subject of the verb, and if the subject is singular or plural.

Pronouns stand for a noun. A pronoun must agree with its noun in gender, number, and person. Its antecedent (that is, the noun it stands for) must also be clear. "While each of the other conspirators turned his back on him. Brutus regarded Caesar steadily. He seemed unafraid." This is partly correct. Each is singular. The conspirators (e.g. Brutus) were male, so each is turning his back. But what about the him and he? On whom are they turning their backs? On Brutus or Caesar? Who is unafraid? Is it Brutus or Caesar?

Here we have the problem of an unclear antecedent. When there is doubt about who or what is being referred to, the trick is to repeat the appropriate noun rather than using a pronoun. Two meanings are possible. (1) "While each of the other conspirators turned his back on Caesar, Brutus regarded him steadily. Caesar seemed unafraid." Or (2) "While each of the conspirators turned his back on Brutus, Brutus regarded Caesar steadily. Brutus seemed unafraid". Make sure your sentence means what you want it to mean.

Test. Ask yourself who or what a pronoun refers to. If in doubt, repeat the noun.

Modifiers. Words or phrases that modify other words or phrases must do so clearly. Beware the "dangling" modifier! "Hitching up his toga, the crowd waited silently for Brutus to speak." The crowd did not hitch up Brutus's toga! This could be corrected to: "As Brutus hitched up his toga, the crowd waited silently for him to speak." Another version might be: "Hitching up his toga, Brutus turned to speak to the silent crowd."

Test. Ask yourself if the noun following the verb in these "dangling"

constructions is the subject of the action.

Beware the misplaced modifier. This is a phrase or clause that is placed too far away from the word it is intended to modify. As a result it seems to modify another word incorrectly: "Brutus held up Caesar's cloak to the crowd all covered in blood." The cloak, not the crowd. was covered in blood! You could correct this by moving the modifier: "Brutus held up Caesar's cloak, covered in blood, to the crowd." An alternative is: "Brutus held up Caesar's blood-stained cloak to the crowd."

A special kind of misplaced modifier is the "squinting" modifier. This is an adverb that is placed between two verbs, each of which it could modify. "The crowd not accustomed to hearing such orations often interrupted with angry shouts." This could mean that the crowd did not hear such orations often, or that they interrupted often. Well-placed commas correct this, or the modifier can be moved: "The crowd, not accustomed to hearing such speeches often, interrupted . . . " Or, "the crowd, not accustomed to hearing such speeches, often interrupted ... " Another version might be: "the crowd was not accustomed to hearing such speeches and interrupted often with angry shouts."

Test. Ask yourself: to which verb does the modifier actually apply?

Tenses. Generally you should use one verb tense throughout your paper. If your paper describes past events, you will probably want to use the past tense. For present-day subjects you will use the present tense. Be consistent.

Paragraphs. A good paragraph contains a topic sentence. This tells what the paragraph is about. All the other sentences in the paragraph are connected in some clear way to the topic sentence. This sentence usually appears at the beginning of the paragraph, but sometimes it occurs at the end or even in the middle. The topic sentence of this paragraph appears at the beginning of

the paragraph.

Coherence. A paragraph usually consists of two or more sentences. The sentences should follow each other in such a way that the paragraph is coherent. If you keep antecedents clear from sentence to sentence, then the paragraph will be coherent. Use the antecedent test to check your sentence is clearly constructed.

Careful control of antecedents will help reveal the introduction into a paragraph of new ideas that do not belong to that paragraph. It will also show up any shifts of focus in the paragraph. Such shifts occur when a paragraph that seems to be about one thing suddenly appears to be dealing with something with no obvious link.

Paragraph links. Just as you must link sentences in a paragraph, so must you link paragraphs to each other. The first kind of link is that of ideas and logic. Paragraphs must be linked logically according to the ideas they present. This kind of linkage reflects the outline that guides the development of your "argument."

Paragraphs must also contain verbal links. Verbal links alert the reader to the unfolding structure of the paper. Without such links, the reader can get "lost", and will not understand why a paragraph is there. These verbal links are of two main kinds.

First, there are discursive links. The author introduces a paragraph by referring to what has just been presented, and indicating what is going to happen next. For example, "One should not give too much weight to these limited economic arguments for nuclear power (previously discussed) because they do not deal with long term environmental issues to which we turn next." The link makes clear that "environmental issues" will be the subject of the paragraph.

These discursive links are often used to mark major stages of devel-

opment in a paper. They often set the pattern for a series of paragraphs. They also indicate that a previous pattern is to be changed. They are particularly important when writing longer papers in which you have to try to establish a case for something, or explore a fairly complex issue.

The second kind of verbal link is provided by a *linking word* or *phrase*. Such words or phrases mark the transition from one paragraph to the next. Some examples

are: however, on the other hand, therefore, in spite of. You can also establish a sequence of paragraphs by numbers: first, second, third, and so on.

If you follow these tips, your readers will enjoy what you write. They will be able to follow your ideas easily, because you will express yourself simply and vividly. Your paper will be tightly organized and well structured. It will flow effortlessly, because you are in clear command of your material.

Editing and Revising

Easy reading is hard writing! You will need to turn out a number of drafts before you produce the best results. Two drafts are necessary, and a third is usually desirable. As you write your first draft, concentrate on putting your ideas down in a clear and orderly fashion.

After you've completed your first draft, put the paper aside for a time. Depending on how good your planning has been, and how well you have been able to keep to a schedule, you may be able to forget your paper for several days. You will then be able to look at it with a fresh, critical eye.

Read what you have written carefully, keeping in mind who your readers are and why you are writing the paper. As you read, ask yourself these questions about content,

grammatical correctness, and style.

Read for content. Does the introduction clearly state what the paper is about and provide a context for what you want to say? Does the main part of the paper provide all the information that is needed to make your case? Are there other arguments that you need to include? Are there other examples that would help make your points clearer and more persuasive? Is the order of the main ideas logical? Are there gaps of reasoning, or in the information you have presented? Does the paper read naturally and easily, or is it stilted and awkward in places? Reading it aloud will make such lapses easy to detect.

Does the conclusion follow from the main body of the paper? Have you recapitulated the paper's main

"Read what you have
written carefully . . .

Read for content,
grammatical correctness, and style."

ideas adequately so that someone reading the conclusion alone would have a good idea of what the paper was about?

Does each paragraph have a topic sentence? Is each element of the paragraph clearly related to the topic sentence?

Does each paragraph deal with an important separate idea, and does each paragraph follow the one before it logically?

Grammatical correctness. Are your sentences complete, with no fragments or run-on clauses and sentences? Is subject-verb agreement correct? Are all antecedent references for pronouns correct? Are all modifiers in the right place-no

danglers or squinters? Is the right punctuation in the right place? Are there commas separating words and phrases . . . full stops or periods showing where each sentence ends ... question marks at the end of questions . . . quotation marks setting off material quoted direct from your sources?

Read for style. Is the tone of your writing appropriate? It must not be too informal or formal for the subject you are writing about and for your readers.

Have you said what you mean? Examine very closely the words that you have written. Do you mean what you have said, especially if you have used a figure of speech? Make sure

figures of speech are appropriate and consistent.

Have you used any clichés? Why settle for a vague general word when a more vivid and precise one would be better?

Does the paper ramble in places? Could a phrase or sentence be cut out because it is repetitive or imprecise?

Have you provided enough discursive links? Will your reader easily understand the different stages in which your ideas are presented? Have you used enough linking words so that individual paragraphs flow easily one from another? Do they follow each other in the right order?

Spelling. Careless spelling mistakes can spoil good writing.

(1) Use a dictionary to check the spelling of any word that you are not sure of. (2) Be careful of doubling consonants when making an adjective into an adverb (strictstrictly, careful-carefully, accidentaccidentally). (3) Also beware of "ible" and "able" words (edible, contemptible, irresistible, noticeable, indispensable). (4) Don't forget the rule. "i before e except after c": for example, "receive" and "siege". This rule has a number of common exceptions such as "weird" and "foreign"). Watch out for them! (5) Keep a dictionary handy and use it.

If you are using a word processor which has a program to check spelling, make sure that the word processor's built-in dictionary is British English (or American English), whichever is appropriate for you.

Watch out for words that are spelled correctly, but are wrong in the context ("there" or "their," and "weigh" or "way," for example).

Quotations. If you use a quotation, be sure to copy it exactly, and enclose it in quotation marks. If the passage is more than five lines long, present it as a block that is indented and single-spaced. If you omit part of the quotation, use an ellipsis (. , .) in place of the part left out. To make a quotation fit into your text

Choosing a topic that excites your imagination is a good way to start. You will approach the subject with enthusiasm and produce an interesting piece of writing.





A word processor is a useful tool for quick writing and editing. It allows you to correct, revise, and reorganize your text and, when you are satisfied, print the finished product.

easily, or to make its meaning clear, you will need sometimes to add some words of your own. These should be enclosed in square brackets []. You should introduce each quotation by giving the name of the author or by making another form of reference: for example, it has been claimed that "... (followed by the quotation). You must provide a footnote to identify the exact source of the quotations you use.

Footnotes. The main purpose of footnotes is to document sources. This means that you give credit to the authors on whose ideas you draw. Your reader can check the accuracy and relevance of quotations or other information you have used. You are anticipating the reader's question as he or she reads what you have written. Is this really so and how does the author know it? Footnotes give sources for:

1. Direct quotes: Smith has claimed, "..." Smith's actual

words are presented between quotation marks or as a block quote, depending on the length.

- 2. Indirect quotes, when you paraphrase (restate in your own words) someone else's ideas, opinions, and theories. For example Smith has argued that . . .¹ and you paraphrase what he said.
- Facts and figures, which give the data backing up a statement.

Document your sources adequately. Otherwise it may look as if you have stolen other people's ideas, and are passing them off as your own. This is called *plagianism* (the English word plagiarism comes from the Latin word for kidnapper).

As you write your first draft, put a footnote number in the margin whenever you need to document what you have written. On a separate sheet, write the footnote number and the details of the source—author, title, and page number. It is a good idea to use cards for the details of each footnote rather than to list them on a single sheet. If you change the order of footnotes later, it is simple to rearrange the cards ready for typing the final draft.

Sometimes you will be required to put your footnote at the bottom of the page where they are referred to. This is easiest for the reader. Word processors can automatically place footnotes on the right page. An easier alternative, if you are typing or handwriting, is to list the footnotes at the end of the paper. The heading "Notes" is then often used for this section, because strictly the footnotes are no longer foot-of-the-page notes. Find out which location for footnotes is preferred (or required) for your paper.

Footnotes are numbered consecutively from 1 onward throughout the paper. Usually, the footnote number is shown as a superscript (raised above the line, e.g.1) after the quotation or other material referred to. The same number appears before the footnote itself at the bottom of the page or at the end of the paper. Here, the number is shown as a superscript before the text of the footnote.

Footnotes usually include only enough information to identify the source. Full details of each source are given in the bibliography or list of references. Note that the title of a book or journal or newspaper is presented in italic tupe. This is usually indicated in a paper by underlining. The first lines of each footnote is indented like a paragraph.

'Theodore Besterman, UNESCO, p.9 (a book with a single author)

Donald Michie and Rory Johnston, The Knowledge Machine, ch.9 (a chapter in a book by two authors)

³Zena Sutherland, ed. The Best in Children's Books, p.21 (an edited book--sometimes the title is given first, followed by the editor's

"Caesar, Julius, " World Book Encyclopedia, 1989, vol.3, p.12 (an unsigned article in an encyclopedia--if the article is signed the footnote begins with the name of the contributor).

5"Opposition mounts against Major and European Union, " Sydney Morning Herald, June 22, 1991, p.13 (unsigned article in a newspaper--if the article is signed the footnote begins with author's name).

'Lord Annan, "British Higher Education, 1960-1980 . . . , " Minerva, 1982, p.5 (a signed article in a periodical -- the ellipsis indicates that some words are omitted)

List of references. The bibliography, or list of references, is a list of all the published sources that you used to prepare your paper. It appears at the end of your paper. Do not include items that you consulted, but did not actually use. The bibliography identifies your sources exactly, and usually provides more information about them than the footnotes. The entries are arranged alphabetically; by surname of the author, or if there is no author by the first word that is not "the," "a," or "an" in a title of an article.

Bibliographies are compiled in a variety of styles which specify the order of elements and the punctuation for each entry. Check to see what bibliographic style you have to use. The titles of books and journals are usually presented in italic type,

Editing your own work is one of the hardest and most important tasks in turning out a well-written paper. Look for weak spots in content, organization, and writing style, as well as for errors in grammar, spelling, capitalization, and punctuation.

enclosures, enclosure that resemble sleeping bags. These enable astronauts to sleep unstrapped without floating about. down to stop themselves from

Eating and drinking. Eating aboard the space shuttle also required astronauts to the conditions of weightlessness.

They needed eat their meals with their feet strapped down. to keep them from floating about Food must be nutritious, easy to eat, and convenient go store. Foods include frozen or chilled soups, vegetables, and meat#. The shuttle has wave to heat food. The astronauts eat use with dishes and cutlery.

indicated in your paper by underlining. The elements that must be included are:

- for books: person or persons responsible for the content (author, editor, compiler, or translator, for example), place of publication, publisher, and date of publication.
- for articles in a periodical or magazine or encyclopedia: author, title of article, name of periodical or encyclopedia, volume number, date, and inclusive pages.

The footnotes given above would appear in a bibliography as follows:

Annan, Lord. "British Higher Education, 1960-1980: A Personal Retrospect," *Minerva* 20 (1982): 1-24.

Besterman, Theodore.

UNESCO: Peace in the
Minds of Men. London:
Methuen, 1951.

"Caesar, Julius," World Book Encyclopedia 1992, vol.3, pp.12-14 (note that pp. is abbreviation for pages, p. for page). Michie, Donald and Johnston, Rory, The Knowledge Machine: Artificial Intelligence and the Future of Man. New York: Morrow, 1985.

"Opposition Mounts
Against Major and European Union," Sydney
Morning Herald, June 22,
1991, p.13.

Sutherland, Zena, ed. The Best in Children's Books. Chicago: University of Chicago Press, 1973.

Preparing a bibliography requires patience and attention to detail. Be sure to include all the relevant details on your bibliography cards when you first consult your sources. Otherwise you will waste time trying to relocate the sources again at the time of writing your paper.

Other sources. You may use sources other than printed books and periodical articles. You might, for example, have conducted a series of interviews or consulted in your local library some unpublished documents (such as diaries or letters). List them under a heading "Other Sources." For interviews, give the name of the person, title or

position, and the date of the interview. If you interviewed more than one person, list them in alphabetical order by surnames. If you consulted unpublished documents, give the name of the person who wrote them, what kind of documents they were (for example, unpublished diary), and where they can be found.

Appendices. You may decide to include in your paper tables, charts, graphs, diagrams, lists, or other special material. Place them at the end of the paper and label each item Appendix A, Appendix B, and so on. Each item should be given a title. In the appropriate place in your text, you can refer to the material with a cross-reference to the relevant appendix. For example, you could say: "For a list of nuclear power stations in the United Kingdom see Appendix A."

Front matter. The front matter of your paper is important. It introduces your paper to the readers, and prepares them for the argument or case you are going to make. In addition to the title page and the table of contents, it is often useful to give an abstract or brief summary of the paper. This can appear on the title page itself, but is usually given on a separate page headed "Abstract" or "Summary." Notice how the title page, table of contents and abstract or summary do almost

"The front matter . . .

is important.

A good title page will

tell your reader at
a glance what is coming."

the same thing, but with increasing amounts of detail, in preparing the reader for what follows.

A good title page will tell your reader at a glance what is coming. It should give the following information presented very clearly.

- 1. The paper's title. Sometimes this may actually be a thesis sentence
- Your name as the author
- 3. Who (or what class) the paper is
- 4. The date you hand in the paper

A Table of Contents, or detailed outline, indicates the major ideas of the paper, and the order in which they are presented. It also tells the reader how long the various sections are, and where to find the "apparatus" (the bibliography, footnotes, if included at the end of the paper, and any appendices). It also lists the Summary or Abstract of the paper, if 4. you have provided one. When you draw up the table of contents for your paper, keep in mind the model provided by a book's table of contents.

The main elements of the table of contents are:

- Headings such as Contents, or Table of Contents, or Outline
- 2. Summary or Abstract
- The main sections or Chapters, and their sub-sections
- Notes or footnotes
- Bibliography or References
- Other sources

The final copy. If you are given a style sheet for preparing your paper, follow it exactly when making the final copy. If there is no style sheet, follow these guidelines. Using a word processor makes much of what is listed here very easy to do.

- 1. Type on good quality white typing paper. Use one side of the paper only. Make sure you have a new ribbon in your typewriter or printer that gives good dark, legible copy. If you are handwriting the paper, write in dark blue or black ink on one side of standard ruled paper.
- Leave good margins around 2. your paper. Sensible margins are about 3 cm on the left and 2.5 cm on the right, the top, and bottom of the paper. Start the outline or title page about 5 cm from the top.
- 3. Double-space the text.
- Indent all paragraphs by the same number of spaces.
- Double-space between the main headlines of your outline or table of contents.
- 6. Indent the first line of a footnote and put the second and following lines flush with the left margin. Single-space the lines within a footnote, but leave a line space between footnotes.
- Begin each bibliography entry at the left margin. Single-space within each entry, but double-space between entries.
- 8. Indent single-space quotations, rather than run them into the text.
- Number all pages, except the title page. Use lower-case (small letters) Roman numbers (i, ii) for the outline pages and Arabic numerals (1,2) for all other

pages. Centre the number at the bottom of the first page of the outline, the text, and the bibliography. Centre the number at the top of all other pages, or place it at the top right margin.

- 10. After you've finished typing or writing all the parts of your paper, assemble them in the following order:
 - (a) Title page
 - (b) Table of contents or final outline, including the title of the paper and the thesis sentence if that is appropriate.
 - (c) Text of the paper
 - (d) Notes
 - Bibliography
 - (f) Appendix, if included

Make an extra copy of your paper for yourself. Fasten your paper in the upper left-hand corner, or put it in a folder or binder. Now you have finished!

If you pay close attention to these details, your paper will make a good impression. The reader will know at the outset what you are trying to do. The paper will look good, and be easy to read because it is well set out. You will not spoil it because of careless mistakes of spelling, punctuation, or grammar. What matters most is the quality of research and thought that you have put into your work. These will be enhanced by careful presentation.



A Guide to

Speaking Skills

If you're like most people, you spend a lot of time talking. Yet the thought of making a speech before an audience may fill you with dread. If so, you're not alone. Many people are terrified if they have to make a public speech.

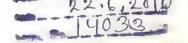
The guidelines given here for preparing and delivering a speech can help you become a confident speaker. You may never have to address a huge audience. But as a student, you'll give a variety of oral reports. And sometime during your life you are very likely to be asked to give a committee report at a club meeting, ask for donations for a charity, or make a presentation to your boss. Learning how to handle speaking situations with ease is a

skill well worth developing. It will help you communicate more effectively in a wide variety of everyday situations.

Preparing a Speech

There are six basic steps to follow in preparing a speech. They are (1) analysing the audience, (2) choosing a topic, (3) determining the purpose of the speech, (4) gathering information, (5) organizing the content, and (6) choosing a format.

Analysing the audience. To speak effectively before a group of people, you need to know something about them. You need to know such factors as their age and educational level and their attitudes regarding various subjects. You also



must know the size of your audi-

Age and educational level. People of different ages and educational levels have different vocabularies and different abilities to understand ideas. Be sure your audience can understand what you're talking about and adjust your vocabulary to their abilities. Also consider how much knowledge about the topic your audience already has. For example, a talk about life in Ancient Rome presented to a group of 8year-olds would be far different from a talk on the same topic presented to a group of senior school students. The language you use and the number and kinds of facts you present would differ.

Attitudes. If you are presenting a controversial topic, try to find what attitude your audience already holds toward the topic. Are most of the members inclined to agree or disagree with the position you will present? Or are they indifferent? If they're indifferent or likely to disagree, you may have to gather more facts and present them more forcefully to be effective.

Size. A large group may require a more formal speech presentation than a small group. If the group is large, you may be speaking from behind a podium or on a stage. If the group is small, you simply may be seated at a table with the other members of the group. These factors may influence your choice of speech format and your delivery techniques.

Choosing a topic. There are several points to consider in choosing a topic. First, choose a topic that interests you or that you already know something about. You're more likely to enjoy preparing and delivering a speech on a topic you like than on one you don't particularly care about. You're also more likely to get a good response from your audience. Second, consider the probable interests of your audience. A talk on how to improve scores on video games might win an enthusi-

astic response from teenagers. But such a talk would probably be of little interest to a group of senior citizens. Third, make sure the topic and tone of your speech fit the occasion. You would not make the same kind of speech at a firm's dinner as you would at a sports club party. Fourth, if your topic needs research, see that the information is readily available. Finally, make sure you can cover your topic adequately within the time allowed. Limit your topic so you can present your main idea and support it with relevant details.

Determining the purpose. Almost every speech has at least one of three main purposes: (1) to inform, (2) to persuade, or (3) to entertain. An informative speech provides information and consists largely of facts presented in a straightforward manner. A persuasive speech tries to convince an audience to do something or adopt a particular point of view. Persuasive speeches may rely on emotional appeals as well as facts to achieve their purpose. An entertaining speech provides a pleasant experience for the audience and may have a more informal tone than the other two kinds of speeches.

Many speeches have two or three main purposes. For example, you may try to entertain the members of your audience in order to win them over-or persuade them-to accept your point of view.

Gathering information. If your speech requires information you don't already have, you'll need to do research. Here are three ways to go about it:

- 1. Observe the subject matter itself. If your speech is about how newspapers are recycled, for example, you could visit a recycling plant to observe the process.
- 2. Use the library. The books, magazines, newspapers, pamphlets, and other materials you'll find in your public library will provide information on almost any speech topic.
- 3. Interview an expert or others who have firsthand knowledge. If you're preparing a speech on the effects of budget cutbacks on primary schools, for example, you might interview the head teacher and some of the other teachers at a local primary school.

For pointers on how to do research, see "A Guide to Research Skills" on pages 28-40.

Organizing the content. Like a written report, a good speech requires careful organization. Most speeches are organized in three parts: (1) the introduction, (2) the body, and (3) the conclusion.

"Be sure your audience can understand what you're talking about and adjust your vocabulary to their abilities."

As you develop the content of your speech, always keep in mind the importance of attracting your audience's interest in the beginning and holding it to the end. The introduction to your speech needs to tell the members of your audience what your speech is about—but in a way that will make them want to listen. Don't begin by saying, "This speech is about...." Instead, try using a personal anecdote or lead in with a dramatic statement.

In the body of the speech, present your main points and supporting details. Make sure the details are closely related to your topic and interesting to your audience. You can present your main points in several ways, depending on your topic. You can arrange them in order of importance, putting the most important points first. You can use chronological order, describing events in the order in which they occurred. In some speeches, you might discuss a topic that is new to your audience or difficult to understand. In such cases, begin with the simplest facts and work your way up to the more difficult ones. Or think of something that the members of your audience already know about that could help them understand the new or more difficult topic.

The conclusion of your speech is your last opportunity to impress the members of your audience. Try to leave them with something to think about. In many cases, a quotation from a famous person could provide a memorable conclusion to your topic.

An outline can help you organize the ideas and facts that make up each part of your speech. The phrases or sentences of the outline briefly state the points to be presented. You may use a formal outline format like the one on page 21 in "A Guide to Writing Skills," Or your outline may consist of a simple list of points to be covered—in proper order, of course. You can use the outline as a guide when you deliver your speech.

A speaker's check list

There are many steps involved in the preparation of an effective speech. It is easy to forget a step or two along the way. And yet this would be the kind of mistake that could ruin a presentation. If you are about to begin the preparation of a speech, use the following questions to make sure you cover all the points.

LIOI	is to make sure you cover all the points.	Yes	No
1. 2. 3. 4.	Have I carefully studied and analysed the audience? Have I chosen a topic for my speech that not only interests me, but is also adaptable to the likes and dislikes of my audience? Have I set the purpose of my speech? Have I carefully gathered all of the	_ =	_ _
5. 6.	information and materials I will need to document my speech? Have I developed a well-organized and logical outline for my speech? Have I rehearsed my presentation to the point that I am sure I can deliver the speech confidently and without hesitation?		_

Choosing a format. You need to decide what kind of format to use in delivering your speech. You have four choices: (1) reading the speech, (2) memorizing the speech, (3) speaking impromptu, and (4) speaking extemporaneously. In choosing a speech format, make sure it is one you are comfortable with and one that suits the occasion. Each format has advantages and disadvantages.

Reading the speech may seem like the safest format. You don't have to worry about forgetting anything, and you can make sure your speech precisely fits the allotted time. But reading your speech also has disadvantages. You may become so engrossed in your papers that you forget to look up at the audience. You may begin speaking in a monotone, causing your listeners to lose interest. Once they've lost interest, the point of your speech may never get across. Reading your speech also makes it difficult to adjust the content in response to audience reactions.

If you choose to read your speech, type it double-spaced or write it out neatly so that you can read it easily. Some people write their speeches on large note cards and make an effort to look up at the audience at least at the end of each card.

Memorizing the speech requires that you first write it out and then memorize it word for word. Depending on the length of the speech, this type of delivery could mean hours or days of extra preparation time and effort. The format also has several other disadvantages. You might skip an important point or forget what comes next. You might concentrate so hard on remembering the speech that your voice sounds unnatural. And you'll be unlikely to add remarks or otherwise adjust your speech to suit the mood of the audience. If you decide to memorize your speech, you'll have to keep in mind the need to make your delivery natural and relaxed.

Speaking impromptu requires lit-

tle or no preparation. As a result, it is rarely used for a formal speech. Comments offered at a committee meeting or club gathering are examples of impromptu speaking. This format can succeed only if you are well-informed about the subject. An impromptu speech enables you to give a lively, spontaneous delivery. What you say can be suited specifically to the mood of the audience. But an impromptu speech risks being unorganized. Without adequate preparation, you may ramble and never get your point across effectively. If you know ahead of time that you'd like to say something at a

meeting or other occasion, take at least a few minutes to organize your thoughts and perhaps jot down your main ideas.

Speaking extemporaneously is the most commonly used type of delivery in public speaking. You organize your ideas in a written outline and use it as a guide when you give your speech. An extemporaneous speech has the advantage of being both organized and spontaneous. Although you don't write down the complete speech, you can refer to the key words or sentences of the outline to keep yourself "on track." You can easily add or omit details

on the basis of audience reaction. And it's not as difficult to maintain eye contact with your audience when you speak extemporaneously as it is when you read from a manu-

To take full advantage of the flexibility of the extemporaneous speech, learn about your topic in depth. Gather more details than you'll actually need. That way, you'll have a full stock of material to draw upon to keep your speech interesting. You can also vary the content, depending on the audience's reaction.

Rehearsing and Delivering a Speech

After you've completed all the steps in preparing your speech, you're ready to begin rehearsing, unless you're going to give an impromptu speech. Rehearsing is obviously necessary for a memorized speech, but it is also vital to a good extemporaneous speech or to a speech you plan to read. The more you rehearse your speech, the more confident you'll be when the time comes to deliver it.

As you rehearse, remember that you want to convey more than information. You also want to convey enthusiasm for your topic. If you sound interested, your audience will be more likely to listen to, and enjoy, your speech.

How to rehearse. Begin rehearsing by using your outline or reading aloud from your manuscript. As you repeat the speech many times, you'll come to depend less and less on your written words. If possible, make a tape recording of your speech and listen to it critically. You may find that you're not pronouncing all your words clearly or that you're going too fast or too slow.

Next, practise in front of a mirror, paying attention to your posture and gestures. Then, ask someone to listen to your speech and give an hon-

est reaction to both content and delivery. Your listener may be able to spot distracting mannerisms that you should correct, such as clenching your fists at your sides or shuffling your feet. Finally, if you will be delivering your speech in an unfamiliar place, try to practise it there at least once. That way, you can practise with a podium and microphone if they are to be provided.

Your voice. The way you use your voice can add greatly to the impression you make when delivering your speech. As you speak, pay special attention to the volume. speed, and pitch of your voice and to clarity of pronunciation.

Volume. Obviously, you'll want to speak loudly enough so that the audience can easily hear you. You'll have to consider such factors as the size of the room, whether you'll be using a microphone, and whether there are outside noises you must speak over. Whatever the situation, try to vary your volume to make your voice sound more interesting. At times, you might speak more loudly to emphasize an important point. At other times, you might gain attention by speaking more softly, making the audience listen more carefully

Speed. Don't speak so fast that you slur your words or become difficult to understand. If you have a time limit, pace yourself so that you can finish your speech without having to hurry at the end. Varying your speed from time to time can make your speech more effective. You can slow down to emphasize a point. And a dramatic pause at the end of a particularly important statement can be an effective technique.

Pitch is how high or low your voice sounds. You vary your pitch automatically during normal conversation. Your voice sounds higher when you are excited and lower when you are serious. During a speech, your voice should follow this natural pattern of pitch variation. Try to avoid speaking in a monotone,

Clarity of pronunciation. Speak as distinctly as you can without sounding unnatural. Avoid saying "er" or "um" between words or phrases. Enunciate word endings, such as ing, clearly.

Your appearance and the way you use your body can be almost as important as your voice when you give a speech. Dress neatly in com fortable clothing that is suitable for the occasion. Avoid unusual clotter or jewellery that might distract the

n tell



The more you rehearse your speech, the more confident you'll be when the time comes to deliver it. . . . Begin rehearsing by using your outline. . . . Practise in front of a mirror, paying attention to your posture and gestures.

audience or get in your way as you speak. Stand up straight, but in a relaxed manner. Don't slouch or lean on the podium if you're using one. Try to keep a pleasant expression on your face.

As you speak, keep eye contact with your audience. Don't look up at the ceiling or down at the floor. If you're reading from a manuscript, hold it up slightly so that you can easly glance at the audience from time to time.

Gestures can help emphasize important parts of your speech. But don't overdo them. If you gesture constantly, you'il lessen the effect and make the audience more aware of your gestures than your words. And make sure your gestures look natural and blend smoothly with what you're saying.

Audio-visual aids can enliven your presentation. Such aids include drawings photographs, thes, charts, graphs, diagraphs black-

boards, models, slides, films, records, tape recordings, and videotapes. Audio-visual aids can add welcome variety to your speech and help hold the audience's attention. They can enable the audience to understand exactly what you mean. They can also make your speech more memorable by leaving the audience with a more vivid impression of your topic than words alone can

Whithever kind of audio-visual aid

"When your turn comes, take a deep breath . . . Remember that your audience is on your side . . ."

you choose, be sure it serves a definite purpose. An effective aid should clarify, illustrate, or dramatize a fact or idea. For example, a speech explaining how the human ear works would benefit from a drawing or model of an ear. A discussion of various dialects might be greatly enhanced by a tape recording.

Be sure your audio-visual aid fits your needs precisely. If you want to show where major battles of the First World War occurred, for example, don't use a map of the entire Eastern Hemisphere. In graphs and charts, the use of different colours can make statistical comparisons much easier to understand. You also need to be sure that your aid is big enough to be seen by the entire audience and that it is clearly labelled. Take into consideration the size of the room and the size of the audience as you choose and prepare your audio-visual aids.

It's important to rehearse with your audio-visual aids so you can incorporate them smoothly into your speech. Here's a list of points to remember when using audio-visual aids:

- 1. Have them set up and ready to use before you begin speaking. If an aid is particularly interesting or unusual, it may be a good idea to have the aid handy, but hidden, until the appropriate time in your speech. Otherwise, your audience may be too distracted to pay close attention to the earlier parts of your speech.
- 2. Mount illustrations and set them up on an easel, rather than trying to hold them while speaking.
- If you're going to write on a blackboard or paper, remember to keep turning back to your listeners to keep your eye contact with them.
- If you'll be using such equipment as a film projector or tape recorder, be sure it's in good working order and that an electrical outlet is nearby.
- Don't pass a visual aid around during your speech. It's too distracting. If you have material

Lorenza Ing He W. St. Committee b

- to pass out, do it before or after your speech.
- 6. Don't stand in front of a visual aid or block the view of part of the audience.
- 7. Remember to talk to the audience, not to the aid.

Stage fright. When the time finally comes to deliver your speech, you'll probably suffer from that common ailment-stage fright. To keep your nervousness from working against you, concentrate on what the person speaking before you is saying, rather than worrying about your own presentation.

When your turn comes, take a deep breath or two to help stay calm. Act confident, even if you don't feel confident. Remember that your audience is on your side. Walk briskly to your place and look directly at the audience to gain people's attention. Then begin. Once you begin speaking, your nervousness will decrease.





A Guide to

Research Skills

Asking questions and finding answers is what research is all about. If you know where to go or the person to ask to get answers to your questions, you've developed a skill that you can use all your life—in school, in a career, and in many everyday situations.

Research is usually necessary for most papers that you have to write. You will need to find information to answer the question set. You will have to discover what is known about the subject or the arguments that have been put forward in support of, or against, it. Usually you

will have to use a number of sources to find out all that you need to know. Sometimes such sources will present conflicting information. When this happens, you will need to confirm from other sources what is the case. When you do research, you not only find information but you also assess how accurate and reliable the information is.

How to find out. Knowing how to find out is tremendously important. It involves knowing how to work out questions and where to find answers to them. See the section "Asking Questions" on page 9. Good research skills will help you in preparing work for school. Such skills can be equally important outside school. Later on, research skills will be invaluable when you go to college or university or get a job.

The library is a key research resource. This next section is about the library. It gives some general rules to follow in using libraries. It also suggests some of the other ways in which you can find information—such as writing away for it, interviewing people, conducting a survey, using television, and visiting museums and galleries.

Libraries in the Community and You

Libraries are probably the first places that come to mind when you think about doing research. They contain a wealth of information. Often, if you use them skilfully, they will have all the information you may need for your research, whether it is for coursework, a report, or a paper you are producing.

In many communities, there are different kinds of libraries that you could use. First, for school students. is the school library. It is organized primarily to support school work. Most towns and villages also have their own public library or a branch of the main public library.

There may be a college or university library nearby which you could gain permission to use if you needed to. Sometimes there are also other "special" libraries in your community. These libraries are attached to businesses, law firms, or government agencies. Normally they are not open to the general public. However, if you need specialist material from them, it is possible that your school or public librarian could arrange for you to use them.

What the library provides. Do not be put off if the library near you is big and imposing. When you get to know it, you will find that it is organized in such a way that it is easy to use. All libraries, large or small, have:

- 1. A collection. The rule here is: explore the library and get to know the collection!
- 2. A catalogue and other tools for accessing the collection The rule here is: consult the catalogue frequently! It's the only way you can be sure that you are using the collection effectively.
- 3. Librarians. The rule here is: ask the librarians whenever you need help!

The collections. The largest part of the collections of most libraries consists of books and pamphlets, periodicals (or magazines), and newspapers. Often old issues of periodicals and newspapers are photographed on microfilm, so that they take up less space. Reels of microfilm have to be read in a special reader that enlarges the photos of the pages to normal size. Microfilm is easier and cheaper for the library than trying to obtain and keep the regular copies.

Librarians try as far as they can to obtain all of the different kinds of materials that people could use. Thus, most libraries contain not only books and other kinds of printed material, but also art prints, maps. sheet music, music scores, photographs, records, cassettes, audio and video tapes, compact discs. documentary and feature films, and computer programs. The library will usually have the equipment that you need to be able to consult the special kinds of material, such as record or CD players, slide and film projectors, video players and microcomputers (pcs). There will also be microfilm readers and photocopiers.

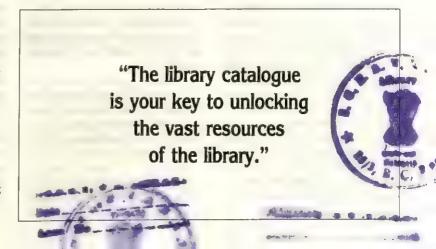
Sections of the library. Most libraries have two major sectionsthe general circulation section and the reference section. The circulation collection contains the fiction and non-fiction books and other

materials that people can borrow for home use.

The reference section has materials that must be used in the library. Most books in the reference collection are intended not to be read from cover to cover but to be referred to as needed. Reference books include encyclopedias, dictionaries, and atlases. These and the many other kinds of reference works play an important role in research. Depending on the size of the library. reference sections can vary from one or two shelves to one or more large rooms.

Shelving the collections. Most libraries place books and other material, such as videos, on open shelves where you can look for them vourself. Fiction (such as novels) is often arranged on the open shelves alphabetically by author's surname. Non-fiction is arranged in subject order according to a system of classification such as the Dewey Decimal Classification.

Sometimes, very large libraries will keep parts of their collection, usually the older books and back runs of periodicals and newspapers, in stacks. These are storage areas not open to the public. You have to apply at a special desk to consult anything held in the stacks. Separate arrangements may be made for other kinds of material such as maps and music.



Classification. The system of classification used in most school and public libraries is the Dewey Decimal system (see page 38 for an outline of the Dewey system). Some large libraries use the Library of Congress system. Both systems originated in the United States. If you know how the classification system works, you can locate in your local library quickly a book whose shelf number you have found in the catalogue. The classification arranges books on related subjects together. So you can browse along the shelves to find books at the Dewey number for the general subject you are interested in.

The library catalogue. The best way of finding out what a library has is to consult the catalogue. It also tells you where materials are located on the shelves. Sometimes special material such as records, films or videos are not included in the main catalogue but are listed separately. Newspapers and periodicals may also be listed separately.

There are a number of forms of catalogues. The card catalogue is the most traditional form in libraries. However, it is rapidly being replaced or supplemented by other kinds of catalogues. The most important of these is the online computer catalogue. To consult this kind of catalogue, you sit at a terminal and use a keyboard to type in commands to the computer.

It is not unusual for one library to use two or three different kinds of catalogue. The library may have a card catalogue or a microfiche catalogue for older material and an online catalogue for more recent material if you use several libraries in your district, you will certainly come across a range of catalogues. Different computer catalogues can be based on different systems. Consequently, each will have to be used in a slightly different way.

Catalogue entries. All library catalogues do two main things.

200 to W. S.

They tell you:

- What books the library has by what authors;
- What books the library has on what subjects.

Most catalogues give you the same general information about a book. This is because librarians generally use a central catalogue record that is prepared by the national library. Such records are distributed both nationally and internationally. Often, though, the information in the record is presented in different ways in different catalogues.

Some computer catalogues display on their screens detailed information that is arranged like a catalogue card. Others give you information in stages, beginning with just a brief entry. You have to tell the system to display a fuller record if you need it. Some information, such as the international book number and the price of the book, may not always be given.

The record shown on page 31 was created by the British Library and has been taken from the online database of the National Library of Australia. It has been used to make catalogue entries by various libraries owning the book. All of the entries for this book in the various catalogues will be similar; none of them will be the same.

The information in the catalogue record is in a series of blocks.

Main heading. Usually the name of the author(s): the person or organization responsible for the book's contents.

Body of the entry. This has three sections: a) title of the work; b) author, editor, illustrator, etc.; c) imprint—place of publication, publisher, date of publication

Physical description. This has three secons a) proper of pages;

b) illustrations, maps etc; c) vertical size.

Notes. These tell you about some special feature of the work or about its publishing history.

Bibliography and index details. It is useful to know if a book has either or both.

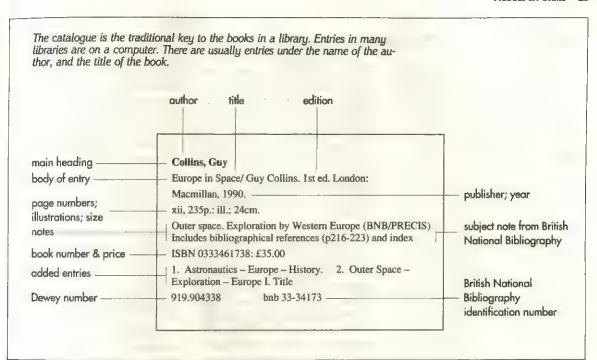
Book trade information such as the International Standard Book Number (ISBN), and price.

Added entry headings. These show where other entries in the catalogue have been made for the work.

Dewey Classification number and other identifying numbers.

All these pieces of information in the catalogue entry can be of use. Suppose you are looking for a recent, short illustrated book that gives a brief survey of a topic from a British point of view and has references that you could follow up. Careful study of the catalogue record will tell you what you want to know. The list of additional headings under which a particular book has been entered in the catalogue is especially important. It suggests other headings you might look up to find similar books.

Call numbers. Catalogue entries also provide a shelf or "call" number for a book. Call numbers show you where to find a particular book on the shelves. The call number appears on the spine of the book and in the catalogue entry. Most call numbers consist of three parts. First is a Dewey classification number. Under this is what librarians call a Cutter number. This is a letter and number code based on the authors last name. Under the Cutter number is an individual book number. Taken together, these numbers uniquely identify a particular book and its location on the shelves.



Sometimes in a call number other letters appear in front of the classification number. This prefix indicates that the book is kept in a separate arrangement from other books in the library. Books in the reference section, for example, are often marked R or REF. Fiction books are often simply marked F, and are shelved alphabetically by the last name of the author. Sometimes biographies are marked B, and are shelved alphabetically by the last name of their subject, the person the biography is about.

Searching by subject. The catalogue helps you to find books and other material on subjects, or topics, you are interested in. The rule for searching a catalogue by subject is: think of a precise term for what you want to find. In most library catalogues, a book on dogs will be entered under "dogs," not "animals". If you look under specific headings you will not have to search through a large number of irrelevant entries to find what you want.

In a traditional library card catalogue, you can only search for a subject using the subject headings that librarians have assigned to particular works. Computer catalogues allow you to do this kind of searching, but also allow you to search by one or more keywords. These are names of people or subject words that can occur in the title or elsewhere in the catalogue record (such as "Western Europe" in the example on this page). A keyword search only identifies books that have the exact words in the title or elsewhere in the record. If you relied on keywords alone, you would miss all the other books on the topic where those particular words do not appear in the record. Subject headings bring together in a systematic way the different ways of expressing a subject.

Librarians. As well as its collections and catalogue, a library has a third major component: the library staff. Professional librarians are highly trained. Their job is to help people use the library as effectively as possible. Most librarians in the public areas of the library set themselves tasks to do while they are waiting for people to ask questions.

So do not be put off from asking for help because the librarians seem busy. If they are dealing with another client you should simply wait your turn. If they are doing something else, you should politely interrupt them.

The best way to get the help you need is to tell the librarians what you have done already, and ask their advice about what to do next. Librarians are there to help, rather than to do your work for you. If you keep this thought in mind, you will find that consulting them can be very rewarding.

Subject searching in a catalogue can be difficult. Librarians can help in suggesting search strategies. These are ways of going about a complicated search. They will ask you questions to find out what you are really looking for. Whenever your are not sure of where something you want is, or how to operate a piece of equipment, or how to go : about finding information that you need, the fundamental rule is: ask a librarian

Using Reference Materials

The library's reference materials can be very useful in helping you to find the information you need. Encyclopedias, almanacs and yearbooks provide information directly. Other kinds of reference books, such as bibliographies and indexes, guide you to additional sources of information. You will find reference books on particular subjects on the reference shelves of the library at the Dewey number for that subject.

Frequently used reference works. Encyclopedias are good sources to begin research. They contain many articles on all kinds of subjects. Encyclopedia articles are often general, and so provide an overview of a subject. They can also be quite specific, and provide detailed factual information. Many encyclopedias have very detailed indexes that help you locate information on a topic contained in a number of articles. See World Book and its index as an example.

Yearbooks and almanacs. Many encyclopedias, including World Book, publish annual supplements or yearbooks. Yearbooks and almanacs are a good source of up-todate statistics and other current information on many topics in the fields of politics, government, the economy, sport and entertainment, and foreign countries. These annual publications often provide a survey

of the events of the year they cover.

Dictionaries are used mainly for finding out the meaning of a word, its origins or roots, and how to spell it correctly. Most dictionaries, however, also have other useful information, such as lists of foreign words, common signs and symbols, biographical information, and place names. Often they have information on grammar and style.

Periodical and newspaper indexes are among the most important reference sources. Magazines and periodicals cover all kinds of subjects, from current affairs to scholarly topics (such as chemistry or archaeology). Newspapers report current events, and from their back issues you can obtain accounts of personalities, events, and issues from the past as written at the time. Periodical and newspaper indexes tell you where to find articles on the subject you are investigating.

Periodical indexes are of two types. Most periodicals issue annual indexes of the articles, book reviews, obituaries and other features that they included during the previous year. There are also "collective" periodical indexes that index a range of periodicals in a general or specific subject area. Readers' Guide to Periodical Literature, for example, indexes more than 200 leading American nontechnical magazines. It is

the most popular general index to periodicals in most English-speaking countries. The British Technology Index, Business Periodicals Index. and the Australian Public Affairs In formation Service (APAIS) are examples of more specialized indexes which are limited both by subject and sometimes by country as well.

Many of these collective indexes "cumulate" (separate issues are merged and re-issued in a consolidated form) throughout the year Some indexes like Readers' Guide also cumulate into volumes coverin several years. Cumulations are very helpful because you don't have to search all the separate parts. When you look up one of these indexes, you should check if your library holds the periodicals you have foun references for. If a particular period cal is not in your library, ask the librarian to identify libraries near you that do have it. When you have references for material that is difficult to find locally, you can request the librarian to borrow them for you through inter-library loan between your library and another library.

Readers' Guide entries are in a combined alphabetic arrangement (like a dictionary) by subject, author and, sometimes, by title. Abbreviations are used in many parts of the entry, including the names of the periodicals. These abbreviations are explained in the front of each issue of the Guide. The example is a typt cal entry from Readers' Guide

"Encyclopedias are good places to begin research. Encyclopedia articles are often general, and so provide an overview of a subject."

Space Flight to Mars

Why send humans to Mars? [Space Exploration Initiative: cover story C Sagan, bibl Issues in Science and Technology 7:80-85 Late Spring 1991.

Many indexes are now available both in printed form and in comput erized form on CD-ROM. If your local library does not have the CD-ROM version of the general index la



A museum or art gallery is a research source that can give students first-hand experience of a topic.

the subject you are investigating, another library near you may have. So it's worth checking. The CD-ROM indexes are quicker to use and allow more complex and interesting searches than the printed versions.

Many periodicals and other publications appear on CD-ROM with a built-in index. Access to the index on a computer quickly leads to the indexed information appearing on the computer screen.

Newspaper indexes. Some public libraries index the local newspaper. Such indexes are an invaluable source of information about the community. A number of important national newspapers provide published indexes. Both The Times (sometimes called the London Times) and the New York Times provide broad coverage of international events as well as of what happens in the United Kingdom or the United States. Many libraries subscribe to one or both of these newspapers because of their importance and because they are available in

microfilm or CD-ROM editions. Having indexes in print or on CD-ROM make them invaluable for reference. By checking in these indexes for the date on which an article appeared about a particular subject, you can find out when an article on the same topic was likely to have appeared in your own local or national newspaper.

Here is a typical entry for The Times.

Space

Discovery shuttle forced to dodge orbiting space debris, SEPT 17, 1h China-10,000 middle-aged scientists are to be retrained as aerospace experts to replace industry's ageing workforce by year 2000, (THES) SEPT 13, 1b

A search with a CD-ROM index produces similar information, but enables you to read the actual newspaper story, at the press of a button, on the same screen as the index.

Judging the value of reference books. When you have found the reference work you want, how are you to decide if it is likely to have the information you want and if that information can be trusted? In analysing it, you should take into account several factors:

Scope of coverage. How well does the work cover the subject you are interested in? Read the title and subtitle carefully—together they can tell you much about the work's scope. The preface or introduction will usually have a fairly detailed statement about what has been included or excluded. The table of contents will show how the subject of the work has been arranged. It will also indicate any special features. From the index you will see how much coverage your specific subject has been given.

Publication date. How up-to-date is the reference work? For some historical subjects, the date a work was published may not be important. But up-to-dateness will be very important in other areas. For example you will want to know how up to date a work is if you are investigating a rapidly developing area of knowledge, or you are concerned with a special time period, or you want information on the latest developments-in space research, perhaps, or in events in the countries of the former Soviet Union. The date of a book's publication sometimes appears on the bottom of the title page. Or you may have to check the copyright date, marked by a @ on the back of the title page.

Edition. Is this the latest edition. of the work? The title page or copyright statement will tell you if it is the first or a revised edition. If there have been a number of editions of the book, it could mean that it has been well received, and is considered a standard work in the field. In this case, an outdated edition may contain information that has been

corrected or updated in a subsequent edition.

Authoritativeness. Is the information in the book reliable? This question is related to another. How expert is the author? Are his or her academic credentials given? If the author is well known in the field or has written other books on the subject, the work is likely to be reliable. Check the book jacket or the front matter of the book to find this kind of information. Are there footnotes. a bibliography of sources, and other indications of careful scholarship? Is there a list of acknowledgments of other experts whom the author has consulted? Is the publisher well known? Articles written for popular magazines, for example, are not always reliable. Look for authoritative articles through the more specialized indexes.

Bias. Are there biases that could interfere with the objectivity of the work? The author's viewpoint or bias may be perfectly obvious, indeed intended. But in other cases, a work may reflect a particular point of view, of which you should be aware. For example the reporting of the Gulf War, and other international matters of controversy, may vary according to the nationality of the reporter and the place where the report is published. Some works are explicitly written from a point of view clearly stated in the introduction. In others, bias becomes evident to the

reader from what has been included or what seems systematically to have been left out. This can result in the work having an American orientation, or a British one, or any other. To overcome any problem of bias you should try to use a variety of sources that represent different points of view. The compilers and editors of standard reference works such as encyclopedias, directories, almanacs and indexes try to be objective and comprehensive in their coverage, but they are not always successful!

Special features. Many books have special features such as illustrations, maps, and charts that could be helpful. Bibliographies may appear either at the end of chapters or at the end of the book. These reading lists can give you useful titles to follow up for more information. Appendices can also be very important. They might contain reprints of original documents, a special chronology (an outline of events organized by date), a bibliographical essay rather than a simple list, a glossary of technical terms and so on.

An important feature of most reference books is the index. Most books have a single index which includes names, subjects, titles and other entries in one sequence. Sometimes there are separate indexes for authors or the names of people mentioned in the book, and the subjects treated.

Getting the most out of reference works. To make full use of a reference work, take time to familiar ize yourself with its organization, Look for an introductory section that tells you how to use the work and what it covers. In the front there will be a key to abbreviations and a list of acknowledgments. Acknowledgments (read carefully) can often tell you something important about the work. The table of contents will give you a general idea of what is covered and how the work is organized, It lists chapter titles and any special features such as illustrations, maps and appendices. Finally the index will quide you to where the information you want is located.

To use the index effectively, think of the word that most clearly identifies your topic. For information on Queen Victoria, look under "Victoria," not "Queen." For information on the Nile River look under "Nile" not "River."

After you have found the pages where the index tells you the information you need is located, scan the text quickly to check that the information is likely to be useful. Look at any headings, and the first or topic sentence of each paragraph. Sometimes there are summaries at the beginning or end of each chapter. All of these will provide clues about what is contained in the text and will help you save time. If you find anything of interest, make a bibliography card and then carefully take notes

Preparing Bibliography Cards

When you write a paper you must acknowledge the sources you used in finding information. Make a note of each source; book or article, record or television programme. List each item on a separate bibliography card, writing on one side of the card only.

For a book you should record author, title, publisher, place and date of publication, and pages consulted. For a periodical, as well as giving the author and title of the article, you should also include volume number, title of periodical, date, and pages consulted. For a television programme you would list title, date of showing, and the channel on which it was shown. Record information on the cards in the same bibliographical format as you will use in your paper.

Number each card in the upper right hand corner. Use this number to identify the source when you are taking notes, to save repeating the bibliographical details. It can save time also to include the call number of the book or periodical, and the name of the library where you consulted it. Then, if you need to check the source again later, you will know where to find it.

Taking Notes

Taking accurate notes is important in all good research. Before you actually write anything, be sure that the information in front of you is worth recording. Summarize what is there, briefly, in your own words. Copy as a direct quote anything that seems striking or particularly important. Use direct quotes when you want to refer to an expert's knowledge or opinion. Direct quotes are important because they report the actual words used. Put quotation marks around such passages and check that you have copied them exactly as in the source.

Some people take notes on standard cards. It is best to make one

card for each major item of information such as a fact, idea, or quotation. With separate items on cards like this you can easily arrange and rearrange your notes. This is useful as your thinking about the subject develops, or if the outline of your paper changes. Often as you read you will have new ideas that you will want to follow up later. You might agree or disagree strongly with a statement, or you might recall that one of your other sources had a different view. Keep track of these arguments by recording them on the card. To keep the author's and your own views separate, you could use different coloured inks, or draw

a line across the card so that your comments are written below what you have noted down from the source you are reading.

Give each note card a heading. This will identify the relevant topic or subtopic in your outline. Also write down the source number from the bibliography card where you can see it quickly. It is best to do this in the same place always, such as the upper right hand corner of the card. Record the page number or numbers where the information is to be found in the source document. Make sure you have the exact page for any direct quotes. You will need this for footnotes in your paper.

Other Sources of Information

As well as the library, you may wish to use other sources to get information useful for your research

Writing for information. Government agencies and business and professional associations can be important sources of information. Such organizations may be able to supply you with recent statistics or other kinds of information that might be otherwise hard to track down. Many of these organizations publish pamphlets that are free or inexpensive.

To find addresses of government agencies, check the telephone directory for a large city near you or for the capital city of your state or country. Most governments also issue lists of official government publications. The lists will tell you what you have to do to get particular publications that you need. Consult the lists at your local public library. See the next section on Selected Reference Books, where the titles of some of these lists are given.

State and local government agencies can provide information on historic events, tourist attractions, economic resources, and many other topics. You may be able to get brochures, pictures, and other material about foreign countries by writing to tourist information centres listed in travel quides.

Most national governments maintain embassies in the capital cities of other countries. They also often have consulates in very large cities. Look in the telephone directory to see if there are any foreign embassies or consulates near you. You can write to or telephone them for information about their countries.

The addresses and phone numbers of thousands of associations are also listed in directories of associations, which may be available in your library. Ask your librarian about other directories that could be helpful. When you write for information, keep in mind that some groups are better equipped than others to handle requests. Make your request specific and reasonable. Include a selfaddressed, stamped envelope for the reply. Most important, don't assume that the reply will arrive by the time you need it. It may not. Be prepared to use information from other sources if necessary.

Conducting an interview can be an effective way to get facts and personal viewpoints that add special interest to your report. Begin with a courteous phone call or letter identifying yourself and requesting an interview. Specify the sort of information you need. Make yourself available at a time that is convenient for the person you are contacting.

Before the interview, read background material about the topic and, if possible, about the person you'll be interviewing. That way, you'll be better able to ask intelligent questions and follow-ups. Prepare a list of questions.

Listen carefully during the interview. Take notes on important points and be careful to write direct quotations exactly as they are said.



A survey is an excellent way of researching people's preferences or opinions. Using a clipboard enables you to take notes easily.

Be sure to ask permission to use a direct quote. Ask for clarification of points you don't understand and the spelling of unfamiliar terms or names. A tape recorder can eliminate the need for taking lengthy notes by hand. But again ask permission beforehand. Some people object to being taped or "freeze" when the tape begins. If you use a tape recorder, check beforehand to make sure that it's working properly and that you have enough tape for the length of the interview.

Before you leave the interview, be sure to write down accurately the subject's name, position or title, and place of business. You'll need this information for your bibliography and footnotes. Don't forget to thank your subject at the end of the interview. Also follow up with a thank-you note.

Conducting a survey is another way to get unique material. You can ask people questions in person or draw up a written questionnaire. In either case, phrase your questions carefully so that people can respond easily and clearly. Surveys that use a "yes or no" or "for or against" format are the easiest to evaluate. You may want to include a "no opinion" category. Or you may prefer a format that allows for a range of opinion. Whatever survey method you choose, take care to record the results accurately.

Using television as a source. Television documentaries, news programmes, and interview shows can give you access to expert opinions and valuable information. If you plan to watch a programme as part of your research, be prepared to take careful notes. Here again, recording

can be a help. (Some TV channels offer free transcripts of certain programmes, but they may not announce the availability of the transcript until the end of the programme.) Be sure to note the name of the programme, the channel on which it appeared, and the date of broadcast for your bibliography and footnotes.

Museums, art galleries, and historical societies may enable you to explore your subject first-hand. For example, a report on the painter Vincent van Gogh could be enhanced by a visit to an art museum that shows some of his works

Many museums and other culture centres have libraries or other research facilities open to the public. Check to see what your community has to offer that can help you gain greater understanding of your topic.

Glossarv

A selected list of terms and abbreviations commonly encountered in research

abr. Abridged; abridgment

added entry The heading above the author line on a catalogue card. The card is filed by this entry.

annotation A brief description of the content of a book. anon. Anonymous (author unknown)

appendix A section that follows the text, containing meterial relative to, but not essential to, the subject.

author number See Cutter number

bibliography A list of books or writings or sources. May be general, selective, on a particular subject, or have a common theme, often annotated.

bk., bks. Book(s)

c. or cs. circa, about. Refers to an approximate date (e.g., c. 1340)

call number The classification (Decimal) number (q.v.) and the Cutter number (q.v.). Used to request a book.

cf. Confer; compare one source with another

ch., chap., chaps. Chapter(s)

class number The number by which a book is identified in a classification system (e.g., the Dewey Decimal Classification System). It indicates the subject matter of the book.

col., cols. Column(s)

continuation A work (e.g., The World Almanac) issued at regular intervals

copr.; @ Copyright The copyright notice usually consists of the symbol © (with or without the word copyright) and the year in which the book was copyrighted. May apply to the entire work or only a part. It generally appears on the verso of the title page.

corporate author An organized body (institution, government agency, or company) acting as author.

cross-reference A reference to another entry. A see reference is to the preferred entry, the one under which the material appears; a see also reference is to related material.

cumulate The contents of several volumes arranged into one volume

Cutter number A number added to the subject classification, Preceded by one or more initials from the author's name, this number makes it possible to arrange books alphabetically by author within a subject. Sometimes called the author number. See also call number.

documentation Support for a statement, as in a footnote or bibliography.

e.g. exempli gratia, for example

ed., eds. Editor(s); edition(s)

ellipsis Three spaced full stops (or periods) used to indicate an omission. At the beginning of a sentence, may or may not be followed by a capital letter; at the end of a sentence, is preceded by a full stop.

eni. Enlarged (e.g., eni. ed.)

et al. et alii, and others

et seq. et sequens, and following

etc. et cetera, and so forth

f., ff. And the following (e.g., pp. 65 f.; pp. 64 ff.)

fig., figs. Figure(s) front. Frontispiece t.e. id est, that is

ibid. ibidem, the same. In a footnote, refers to the book cited

in immediately preceding reference. Ibid, takes the place of the author's name, the title, and as much of the material in the preceding footnote as is identical. The page number may differ.

id. idem, the same. Used in place of the author's name in additional references within a single footnote

il., illus. Illustrations, illustrator, illustrated incunabula Books printed before 1501.

infra See below; to be mentioned later.

L. II. Line(s)

loc. cit. loco citato, in the place cited. In a footnote, refers to a passage already identified when there are intervening references to other sources.

main entry The catalogue card that has full information about a book (the author card).

MS., MSS. Manuscript(s)

n., nn. Note(s)

N.B. Nota bene, note well; take notice

n.d. No date of publication or copyright given

n.p. No place of publication given.

no., nos. Number(s)

op. cit. opere citato, in the work cited. In a footnote, refers to a previously identified work when a different part is cited and there are intervening references. Pages are included in the citation.

open entry A continuation (see above), shown on the catalogue card by a hyphen after the date. The volumes the iibrary has are usually listed.

p., pp. Page(s)

paraphrase A restatement conveying the general meaning of the original.

pass. passim, here and there; throughout the work (e.g., pp. 60, 81. et pass.)

periodical Primarily a magazine, published at regular or irregular intervals.

pl., pls. Plate(s)

printing date The year the book is printed (usually appears on the title page). Not always the same as the copyright

pseud. Pseudonym, a name other than an author's real name, a pen name.

pt., pts. Part(s)

pub. Published, publication

q.v. quod vide, which see

recto Right-hand page of a book; the back of a verso page rev. Revised, revision

scope extent of treatment, coverage

series title The collective title for a group of books.

sic So, thus, in this way. Used within brackets in a quotation to show that an error is in the original: "It was to [sic] late '

slug Heading on a note card indicating the topic

sup., supp., suppl. Supplement

supra See above; previously mentioned

thesis The statement of purpose, the proposition to be explained or proved.

tr., trans. Translator, translation

v., vol., vols. Volume(s)

V. vide. see

verso Left-hand page of a book; the back of a recto page viz. videlicet, namely. Introduces examples or lists.

vs. Versus, against

Selected Reference Books

The following list of general and special reference books will give you some idea of the variety of works available for research. In order to list as many books as possible, information is limited to titles and individual authors or editors. Even if your school library has only a few of these books, many of them, or ones like them, should be available in your local public library

In the section on special reference works, the number in parentheses after a heading—Theatre(792)—is the Dewey Decimal Classification for that group. Although some libraries may assign different classification numbers to individual titles. the number given here will help you locate the reference books in these general subject fields.

The selection includes books with a broad international coverage, and books related to the United Kingdom, the United States, and Australasia. Most countries have similar reference. works. Most general subjects are covered by their own special encyclopedias, indexes to periodicals. Who's Whos, directories, dictionaries and so on. To find the special reference books that you need, check Sheehy and Walford (see the Guides to Reference Books in the first section below). These useful guides come out every few years in up-dated editions.

General reference books

Guides to reference books

Guide to reference books, Eugene P. Sheehy Guide to Reference Material, A.J. Walford

Almanacs and yearbooks

Britannica Book of the Year, 1938-Collier's Year Book, 1939-Information Please Almanac, 1947-The Statesman's Yearbook, 1864-Whitaker's Almanack, 1869-The World Almanac and Book of Facts, 1868-The World Book Year Book, 1922-

National bibliographies

Australian National Bibliography, 1961-Australian Books in Print, 1956-Books In Print, 1948- (US) British National Bibliography, 1950-British Books in Print, 1961-Cumulative Book Index, 1898- (US and other English language) Paperbound Books in Print, 1955-Subject Guide to Books in Print, 1957

Biography

Indexes

Biography Index, 1946-

International

Current Biography, 1940-The International Who's Who, 1935-McGraw-Hill Encyclopedia of World Biography Webster's Biographical Dictionary

By Country

Who's Who in America, 1899-Who Was Who in America, 1897-1981 Who Was Who in America: Historical Volume, 1607-1896

Australian Dictionary of Biography Who's Who in Australia, 1927-

Dictionary of American Biography

Dictionary of National Biography (UK) Who's Who, 1849-Who Was Who, 1897-1970

"Curious facts" books

Famous First Facts, Joseph N. Kane Guinness Book of Records

Encyclopedias, general

Collier's Encyclopedia Compton's Encyclopedia and Fact-Index Merit Students Encyclopedia The New Encyclopaedia Britannica The World Book Encyclopedia

English-language dictionaries

General Dictionaries

Funk & Wagnalls New Standard Dictionary of the English Language Macquarie Dictionary (Australian usage)

Oxford English Dictionary

Webster's Third New International Dictionary of the English Language, Unabridged

The World Book Dictionary

Abbreviations

Abbreviations Dictionary, Ralph de Sola

Etymology (word origins)

Oxford Dictionary of English Etymology Barnhart Dictionary of Etymology

Rhymes

The Poet's Manual and Rhyming Dictionary, Frances Stillman and Jane S. Whitfield

Slang

A Dictionary of Slang and Unconventional English, Eric Partridge

Dictionary of Australian Colloquialisms, G.A. Wilkes

Synonyms and antonyms

Roget's International Thesaurus Webster's New Dictionary of Synonyms

Periodicals and newspapers

Bibliographies

IMS Ayer Directory of Publications, 1880- (newspapers) Press Radio and TV Guide: Australia, New Zealand, and the Pacific Islands, 1934-

Ulrich's International Periodicals Directory, 1932-Willings Press Guide. 1874- (UK)

Indexes

Readers' Guide to Periodical Literature, 1900-Times Index, 1907-

Research, library use and writing

The Elements of Style, William Strunk, Jr. and E. B. White How to do Library Research, Robert B. Downs and Clara D. Keller

A Manual for Writers of Term Papers. Theses and Dissertations, Kate L. Turabian

The Modern Researcher, Jacques Barzun and Henry F. Graff The Term Paper, Step by Step, Donald J.D. Mulkerne and Gilbert Kahn

Writer's Guide and Index to English, Wilma and David Ebbitt Your Library: a Reference Guide, William Katz

Special reference books

The humanities: The meaning of man's life Indexes

Humanities Index, 1974-

British Humanities Index, 1962-

Architecture (720)

A Dictionary of Architecture, Nikolaus Pevsner

A History of Architecture, Banister Fletcher

Macmillan Encyclopedia of Architects

Art, general (700)

Art Index, 1929-

Encyclopedia of World Art

Gardiner's Art through the Ages

Oxford Companion to Art

Literature (800)

Brewer's Dictionary of Phrase and Fable

The Cambridge History of English Literature

Contemporary Authors, 1962-

Encyclopedia of World Literature in the Twentieth Century

Familiar Quotations, John Bartlett

New Cambridge Bibliography of English Literature

Oxford Companion to English Literature

Oxford Companion to American Literature

Oxford Companion to Australian Literature

Cinema (791.4)

Film Literature Index, 1973-

International Motion Picture Almanac

Motion Picture Guide

Oxford Companion to Film

Music (780)

Music Index, 1949-

The New Grove Dictionary of Music and Musicians

The New Oxford History of Music

Mythology (290)

Bullfinch's Mythology

A Dictionary of World Mythology, Arthur Cottrell

Philosophy (100)

The Concise Encyclopedia of Western Philosophers, James O.

Urmson

The Dictionary of the History of Ideas

The Encyclopedia of Philosophy

Theatre (792)

Oxford Companion to the Theatre

Shakespeare's Theatre, C. Walter Hodges

The sciences: Nature and the physical world Indexes

Applied Science and Technology Index, 1958-

British Technology Index, 1964-

General (500; 600)

[Oxford] Concise Science Dictionary.

Dictionary of Scientific Biography

The Great Scientists.

McGraw-Hill Encyclopedia of Science and Technology

Science Year 1991 (World Book Annual Science Supplement)

Van Nostrand's Scientific Encyclopedia

Words of Science and the History Behind Them, Isaac Asimov

The World Book Encyclopedia of Science

Biology (574)

Dictionary of Life Sciences, E.A. Martin, ed.

The Encyclopedia of the Biological Sciences, Peter Gray

The Peterson Field Guides

Synopsis and Classification Of Living Organisms, Sybil Parker, ed.

Engineering and technology (620)

The Dictionary of Space Technology, Joseph A. Angelo

Energy: A Guidebook, Janet Ramage

Handbook of Engineering Fundamentals, Mott Souders

History of Technology, C. Singer, and others

Spencer's Computer Dictionary for Everyone, Donald D. Spencer

Medicine (610)

Dorland's Illustrated Medical Dictionary

A History of Medicine, Arturo Castiglioni

The Oxford Companion to Medicine

Oceanography (551.4)

McGraw-Hill Encyclopedia of Ocean and Atmosphere Sciences Zoology (590)

The Audubon Society Encyclopedia of Animal Life

A Dictionary of Zoology, A. W. Leftwich

The Encyclopedia of Mammals

The World Atlas of Birds

The social sciences: Man and society Index

The Social Sciences Index, 1974

General (300)

International Encyclopedia of the Social Sciences

Anthropology (301)

Atlas of Man. John Gaisford, ed.

Encyclopedia of Anthropology, David E. Hunter and Phillip

Whitten, eds.

Man, His First Two Million Years, Ashley Montagu Current affairs (909.82)

Annual Register, 1761-Facts on File, 1940-

Keesing's Contemporary Archives, 1931-

Public Affairs Information Service, 1915-

Economics (330)

McGraw-Hill Dictionary of Modern Economics

Geography and travel (900-919)

Fodor's Modern Guides (travel series)

The International Geographic Encyclopedia and Atlas

Times Atlas of the World

Government and politics (320)

Britain 1991, an Official Handbook (annual)

Charter of the United Nations: Commentary and Documents,

Leland M. Goodrich, and others

Constitutions of Nations, A. J. Peeslee

Europa World Year Book, 1926-

Yearbook of the Commonwealth of Australia, 1908-

United States Government Manual

Government publications (011.53)

Australian Government Publications, 1961-

HMSO Monthly Catalogue, 1923- (Her Majesty's Stationery Office in the UK)

Monthly Catalog of United States Government Publications UNDOC: Current Index, 1950- (United Nations Documents)

History (900-909; 930-999)

Cambridge Ancient History

A Dictionary of Dates. Helen Rex Keller

An Encyclopedia of World History, William L. Langer

New Cambridge Modern History

Oxford History of England

Times Atlas of World History

The Timetables of History, Bernard Grun

Law (340)

Black's Law Dictionary

Index to Legal Periodicals, 1908-

Statistics (310)

Annual Abstract of Statistics, 1840- (UK)

Historical Statistics of the United States, Colonial Times to 1970

Statistical Abstract of the United States

Statistical Yearbook (United Nations)

The Statesman's Yearbook

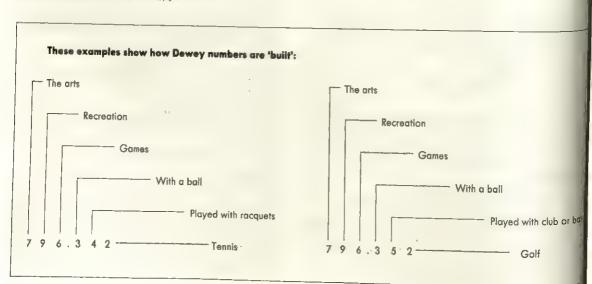
Times of India Directory and Year Book, 1914-

Unesco Statistical Yearbook

Dewey Decimal Classification

000	General works	330	Economics	670	Manufactures
010	Bibliography	340	Law	680	Assembled products
020	Library and information sciences	350	Public administration	690	Buildings
030	General encyclopedias	360	Social problems and services		
040	,	370	Education	700	The arts
050	General periodicals	380	Commerce	710	Civic and landscape art
060	General organizations	390	Customs, etiquette, folklore	720	Architecture
070	Newspapers and journalism			730	Sculpture, plastic arts
080	Collected works	400	Language	740	Drawing, decorative and minor
090	Manuscripts and rare books	410	Linguistics	, ,,	arts
		420	English and Anglo-Saxon	750	Painting
100	Philosophy and related	430	Germanic languages	760	Graphic arts
	disciplines	440	French, Provençal, Catalan	770	Photography
110	Metaphysics	450	Italian, Romanian	780	Music
120	Epistemology, causation,	460	Spanish, Partuguese	790	Recreational and performing
	humankind	470	Latin and other Italic	,,,	noctoditorial and portolling
130	Paranormal phenomena	480	Classical and modern	800	Literature
140	Philosophical systems		Greek	810	American literature
150	Psychology .	490	Other languages	820	English and Anglo-Saxon
160	Logic	7		830	Germanic literatures
170	Ethics	500	Pure sciences	840	French, Provençal, Catalan
180	Ancient, medieval, Oriental	510	Mathematics	850	Italian, Romanian
190	Modern Western philosophy	520	Astronomy	860	Spanish, Portuguese
	,	530	Physics	870	Latin and other Italic
200	Religion	540	Chemistry	880	Classical and modern Greek
210	Natural religion	550	Sciences of earth and other worlds	890	Other literatures
220	Bible	560	Paleontology	070	Ollier Weigibles
230	Christian theology	570	Life sciences	900	History and geography
240	Christian moral and devotional	580	Botanical sciences	910	Geography and travei
250	Local church and religious orders	590	Zoological sciences	920	Biography and genealogy
260	Social and ecclesiastical theology			930	Ancient history
270	History and geography of church	600	Technology	940	Europe
280	Christian churches and sects	610	Medical sciences	950	Asia
290	Other religions	620	Engineering	960	Africa
	•	630	Agriculture	970	North America
300	Social sciences	640	Home economics	980	South America
310	Statistics	650	Management	990	Rest of world
320	Political science	660	Chemical technology	770	Rest Of Motio
			- Additional Additiona		

Reproduced from DEWEY Decimal Classification, Edition 19 (1979) by persission of Forest Press. A Division of Lake Placid Education Foundation, owner of copyright.



How to use the index

The index is designed to help you find information in World Book. It tells you what articles have information on the subject you are looking up. To make it even easier for you to find what you seek, the index refers you to the specific volume and page where the information appears. If it sends you to a fairly long article, it tells you which section or sections of that article to look for.

The references to World Book appear under index headings that are printed in heavy type. These headings are arranged in alphabetical order. To find where World Book contains information on your subject, simply look for an index heading that seems to match the subject you are seeking. For example, if you are looking for information on physics, look for the index heading

Physics

and you have found the references you want.

If the index heading you find is also the title of an article in March 8.

the index heading you find is also the title of an article in World Book, the volume and page number are shown immediately after the heading. In the case of

Mythology M: 751

the index heading and article title are the same, and the article begins on page 751 of the M volume.

Page numbers in the two C volumes are indicated with C and Ci, and those in the two S volumes are indicated with S and So. Page numbers for the volumes that contain more than one letter indicate the letter you seek, rather than the first letter of the volume. For example, the reference to Yoga sends you to Y: 453, page 453 of the W-X-Y-Z volume.

If the heading you find is not the title of an article, you will find the titles of *World Book* articles listed as *index entries* in light type under the heading:

Libretto

Classical music (Operas) Ci: 57 Musical comedy (The book) M:738 Opera 0:453

Some headings have only a few entries under them. Others, such as the Africa heading, have many.

If the article referred to is divided into sections, you will find the appropriate subheadings in parentheses between the article title and the page number, pinpointing the place where the information may be found:

Crime Ci:435

Aborigines (Offences) A:27 City (Social problems) Ci:36 Famine (Effects of famine) F:25 Police (Investigating crime) P:640 Sometimes you will find two page numbers after a title and subheading. They indicate that the section referred to covers more than one page and begins on the first page listed, but the information you seek appears on the second:

Chile

Copper (Sources of copper) Ci:341-342

Identifiers, words or phrases in square brackets, indicate which of several identical headings is the one you seek:

Colon [people]

Colon [anatomy]

Colón [Panama]

Colon [punctuation]

or which of several similar headings is the one you are looking for:

Charles II [king of England]

Charles II [king of France]

Charles III [king of France]

Charles III (king of Spain)

Charles IV [Holy Roman emperor]

Charles IV (king of Bohemia)

Cross-references guide you in using the index. A see reference means that the information you seek appears under another heading in the index, rather than the one you have chosen:

Feisal

See Faisal [king of Saudi Arabia]

A see also reference indicates that another heading in the index has entries you may want to look up:

Communist Party

See also Communism

Many cross-references send you to the list of Related articles which appears at the end of a major article.

Bird

See also list of Related articles

You can thus find the long lists of articles in World Book, such as the list of birds at the end of the Bird article, but these lists do not take up space in the index.

References to illustrations appear along with other references in this index, not separately. The wording shows whether you will find both pictures and text information or only pictures on the pages listed. If the entry says with picture, with portrait, with diagram, with map, or a similar phrase, it indicates that text material appears on the page named and that a related illustration appears on that same page or the page facing it. In the case of

Hotbed (gardening) H:318 with picture

the text Information appears on H:318 and is accompanied by a diagram showing a hotbed.

If the entry says picture on, diagram on, or map on a given page, it indicates that the illustration listed is related to the subject of the index heading you found, even though no significant text information on that subject appears on the same page. In the case of

Blue trunkfish

Fish picture on F:162

the picture illustrates this particular species but the Fish article does not go into detail about the blue trunkfish.

The order of headings in this index is alphabetical, with the items arranged word by word, not letter by letter. Letters are usually regarded as separate words unless they normally form parts of a larger word or an acronym:

G [letter]
G clef [music]
G-Men [film]
Gabo, Naum [Russian sculptor]
GATT

The Index to World Book



A [letter], A:1

A [symbol)

Ampere, A:339 Angstrom, A:374

À Becket, Thomas

See Becket, Saint Thomas à

A cappella [music]

Barbershop quartet singing, B:106 Classical music (Songs), Cl:57

A-frame tent

Tent (Kinds of tents), T:152 with pic-

A Fringe of Leaves (novel by White) Australia, Literature of (Modern novels). A:832

A horizon [geology]

Soil diagram on, So:21

A 1 [grade], A:2

A priori knowledge

Philosophy (Epistemology), P:420; (Rationalism) P:424

A Red Riding Hood Story lillustration by Lon Po Pol

Literature for children, L:320

See Alcoholics Anonymous

Aachen [Germany], A:2

Aachen situla

Sculpture (Early medieval sculpture), S:208 with picture

Aalto, Alvar [Finnish architect], A:2 Architecture picture on, A:513

Finland (Arts), F:118

Furniture picture on, F:507

Aardvark, A:2 with picture

Aardwolf, A:2 with picture **Aarhus**

See Arhus

Aaron (Biblical figure), A:3 High priest, H:198

Aaron, Henry (American baseball playerl, A:3

Aaron Manby (ship)

Ship (Ships of iron), \$:372

Ab [month]

Calendar (The Hebrew Calendar), C:34

Aba [clothing]

Saudi Arabia (Food and clothing), S:106

Ahacá Intanti

Philippines, picture on, P:382

Abacha General Sant Nigerian military

Nigeria (Recent developments), N:214

Ahaco Islands

Bahamas (Land and climate), B:30 with

Abacus [calculator], A:3 with picture Abacus [column], Ck213 with diagram

Abadan [Iran], A:3

Abalone, A:3 with picture

Abaione pear!

Pearl (Shape), P:234

Abandonment (law), A:4

Abbas I [Shah]

Iran (Safavid dynasty), 1:338

Abbasids

Egypt (Muslim rule), E:115 Harun al-Rashid, H:72

Iraq (Arab rule), 1:346 Abbess (title)

Convent, Ci:318

Abbey Leix House

Laois picture on, L:58

Abbey Theatre [Ireland], A:4 with pic-

Colum, Padraic, Ci:203

Gregory, Lady, G:366

Ireland (Arts), 1:356

Irish literature (The Irish literary revi-

val), 1:383

Yeats, William Butler, Y:444

Abbot (title), A:5

Abbot's Hall (England)

Suffolk (Places to visit), So:389

Abboud, Ibrahim [Sudanese general] Sudan (Independence), So:384

Abbreviation, A:5

See also the articles on letters such as

ABC

See Australian Broadcasting Corpora-

Abd al-Rahman (Arab leader) Muslim (Division of Islam), M:743

Abdomen, A:7 with diagram

Ant, A:429

Appendix, A:475 with diagrams

Beetle, B:197

Butterfly, B:686

Coelom, Cl:151 with diagram Diaphragm, D:156 with diagrams

Fly, F:278 with diagram

Grasshopper, G:304; diagram on

Horseshoe crab. H:310

Human body (Trans-vision threedimensional picture),

H:353

Insect. I:250

Intestine, I:298 with diagram

Kidney, K:244 with diagrams

Laparoscopy, L:61

Liver, L:333 with diagram

Mosquito, M:635

Moth, M:640

Pancreas, P:127 with diagram Pelvis, P:250 with diagram

Peritonitis, P:283

Solar plexus, So:26

Spleen, So:233 with diagram

Stomach, So:333 with diagram

Abduction

Kidnapping, K:244

Abduh, Muhammad (Egyptian lawyer),

Abdul Aziz, Ungku [Malaysian economistl. A:8

Abdul Ghafar Baba [Malay politician],

Abdul-Hamid II [sultan of Turkey] Armenia (History), A:580

Abdul Rahim Kajai [Malay journalist],

Abdul Rahman, Tuanku (king of Malaysia, A:8

Abdul Rahman, Tunku (Malaysian prime minister), A:8

Abdul Rahman Yakub, Datuk Patinggi [Malay politician], A:8

Abdul Razak bin Hussein, Tun [Malaysian prime ministerl, A:9

Abdullah bin Abdul Kadir Munshi [Malay writer], A:9

Abdullah ibn Husseln (king of Jordan) Jordan (Independence), J:144

Abdur Rahman Khan lemir of Afghani-

Afghanistan (The Anglo-Afghan wars),

A:114

Abdurahman, Abdullah (South African) political leader), A:9

Abdus Sattar [president of Bangladesh] Bangladesh (The new nation), B:89

Abe Kobo [japanese author] Japanese literature (The modern period), J:64

Abe Lincoln in Illinois play by Sherwoodl

Sherwood, Robert Emmet, S:356

ABO blood group

Abolition movement, A:13

Blood, B:398

Abel Tasman's Passage American Civil War (The Compromise Absalom (Biblical figure) Tasman, Abel Janszoon (The first voyof 1850), A:303 David (King of Israel), D:44 age), T:50 American literature (Nonfiction prose), Absalom, Absalom! [book by Faulkner] Abelard, Peter [French philosopher], A:314 Faulkner, William, F:37 A:9 Slavery (The decline of slavery), Absalom and Achitophel [poem by Science (The Middle Ages), S:145 SAMP Drydenl, D:327 Abelson, P.H. (American physicist) United States, History of the (The abo-Abscess, A:15 Neptunium, N:79 lition movement), U:249 Teeth (Performing root canal therapy), Abendmusiken [music] Women's movement (The beginn-T:94 Buxtehude, Dietrich, B:693 ings of a women's movement), Tonsillitis, T:296 Aberconwy [Wales], A:9 W/295 Abscisic acid Abercromby, Ralph | British meteorolo-Abomasum Hormone (Other growth regulators), gist). A:10 Cattle (Stomach), C:271 Aberdaron [Wales] Ruminant, R:456 with diagram Abscissa Gwynedd (Places to visit), G:439 Abominable Snowman, A:13 with pic-Geometry (Analytic geometry), G:97 Aberdeen, Earl of |British prime minis-Abscission zone ter l. A:10 Hillary, Sir Edmund Percival, H:204 Leaf (The life story of a leaf), L:127 Aberdeen [Scotland], A:10 with picture Nepal (Land and climate), N:76 Absentee, The book by Edgeworth! Grampian Region (Places to visit), **Aboriginal Land Rights Act** Edgeworth, Maria, E:76 G:289 Australian Aborigines (Land rights), Absinthe Aberdeen and Temair. A:842 Wormwood, W:411 Marquess of [British politician], Aboriginal words Absolute dating A:10 Australian Aborigines (Common Ab-Archaeology (Dating), A:503 Aberdeen-Angus original words), A:839 Absolute executive Igovernment Cattle (Beef cattle), C:272 with picture; **Aborigines** President (Types of presidential gov-Cattle (table) C:276 Australia, A:751 with picture; A:1778 ernment), P:764 Aberdeenshire (Scotland), A:11 Australian Aborigines, A:834 Absolute magnitude Grampian Region, G:289 Australoids, A:855 Magnitude, M:60 Abergavenny [Wales] Races, Human (The geographical-race Absolute monarch Gwent (Places to visit), G:437 theory), R:44 Royal families, R:418 Aberglasiyn Pass [Wales] Taiwan (People), T:10 Absolute monarchy Gwynedd (Places to visit), G:439 Abortion, A:14 Absolutism, A:16 Aberration [optics], A:11 with diagram Birth control (Birth control today), England (The Restoration), E:279 Lens (Compound lenses), L:174 B:368; (Methods of birth control) Absolute pacifism Aberystwyth [Wales], A:11 with pictures Pacifism. P:17 Abetting Miscarriage, M:508 Absolute pardon Perjury, P:284 Women's movement (In Western Soci-Convicts in Australia (Pardons), Cl:322 Abousht (food) eties). W:296 Absolute zero, A:16 Iran (Food and drink), 1:335 Abraham [Biblical figure], A:15 Bolometer, B:432 Abhidharma Pitaka Hittites (History), H:232 Cryogenics, Ci:468 Buddhism (The Tripitaka), B:617 Isaac, I:410 with picture Electricity (Principles of electricity), Abidjan, A:12 with picture Ishmael, 1:412 Ivory Coast, 1:475 Jews (Beginnings), J:112 Heat, H:115; (Refrigeration) H:121 Ability Judaism (The covenant with God), J:154 Superconductivity, So:427 Intelligence, 1:276 Kaaba, K:178 Temperature, T:136 Testing (Kinds of tests), T:163; (dia-Ur, U:272 Absolutism, A:16 gram) T:164 Abraham, William [Welsh politician], Political science (Constitutionalism). Abingdon (England) A:15 Oxfordshire (Places to visit), 0:534 Abraham Lincoln (book by Sandburg) Absorbent Mind, The [book by Mon-Ablotic environment Sandburg, Carl, S:71 tessori) Ecology (Ecosystems), E:57 Abraham Lincoln [work by Daugherty] Montessori, Maria, M:576 Environment, E:298 Daugherty, James Henry, D:43 Absorber Abiotic substance Abraham Lincoln (work by d'Aulaire) Refrigeration (Gas refrigerator), R:185 Ecology (Energy flow), E:57 D'Aulaire, D:43 Absorption and adsorption (physics); Ablation shield [spacecraft] Abrahams, Harold Maurice [athlete], A:16 with diagram Heat shield, H:123 A:15 Air cleaner, A:189 Ablative case [grammar] Abramovich, Shalom Jacob (Hebrew Charcoal (Uses of charcoal), C:348 Case (Cases in Latin), C:224 writerl Chromatography, C:497 Ablative shield Hebrew language and literature (Mod-Light, L:260 Space exploration (Returning to the ern Hebrew literature), H:130 Natural gas liquids, N:46 earth). So:135 Yiddish language and literature, Y:453 Refrigeration (Mechanical refrigera-Able-bodied seaman Abrasion tion), R:185 Ship (Officers and crew), S:382 Rope (Synthetic-fibre rope), R:394 Silica gel, S:420 Abnormal psychology, A:12 Abrasive, A:15 Absorption hygrometer Psychology (Major fields of psychol-Ceramics (Kinds of ceramic products), Hygrometer (Other hygrometers), ogy), P:828 C:325

Machine tool, M:15

Plastics (Kinds of plastics), P:579

ABS [plastics]

H:410

Abstract art, A:16

Dove, Arthur Garfield, D:274

Kandinsky, Wassily, K:184

Painting (The 1900's), P:79 with pictures

Sculpture (As artistic expression). S:189: (Varieties of abstraction)

Abstract expressionism

De Kooning, Willem, D:90 Gorky, Arshile, G:261 with picture

Painting, P:86 with picture

Pollock, Jackson, P:657

Rothko, Mark, R:407 with picture

South Africa, Art of (Overseas influencesl. So:71

Abstract noun Noun, N:309

Abstract of title

Conveyancing, Ci:319

Abstract speculation

Political science (The development of political science), P:653

Abstracting [psychology]

Judgment (How to make judgments), 1:158

Abu-Abdullah

See Boabdil

Abu Bakar Isultan of Johorl, A:17

Abu Bakr [Muslim caliph]

Muhammad (Muhammad's mission in Mecca), M:685

Muslims (The first caliphs), M:743

Religion (Islam), R:205

Shiites, S:359

Sunnis, So:426

Abu Dhabi, A:17

United Arab Emirates, U:38 with pic-

Abu Simbel, Temples of (Egypt), A:17 Sculpture (Egyptian), S:196

Abu Talib luncle of Muhammad Muhammad, M:685

Abu Zaby

SeeAbu Dhabi

Abuja icity, Nigerial, A:17

Abul Fazi [Indian scholar], A:17

Abul Qasim Mansur [Persian poet] See Firdausi

Abutilon

Flowering maple, F:272 with picture Abyssinia

See Ethiopia

Electric current, E:143

See also Alternating current

Ac [symbol]

Actinium, A:27

Acacia, A:17 with picture

Australia (Native plants), A:768 with map

Catechu, C:258

Gum arabic, G:427

Plant (How plants protect themselves),

Wattle, W:102 with pictures

Academic Festival Overture

Brahms, Johannes (His works), **B:509**

Academic freedom Freedom, F:433

Academy, A:18 Aristotle, A:567 Carneades, C:204

Plato (Plato's life), P:589

Academy Award

Fellini, Federico, F:49

Film industry (Festivals and awards). F:95 with picture and tables

Academy of Ethical and Political Sci-

ence [France]

Institute of France, 1:266

Academy of Fine Arts [France]

Institute of France, 1:266

Academy of Inscriptions and Belles Lettres [France]

Institute of France, I:266

Academy of Motion Picture Arts and Sciences, A:18

Academy of Sciences (France)

Institute of France, 1:266

Acadia (Canadian history), A:18 with map

Cajuns, C:21

Canada, History of (Early settlements),

Acadia Forest (ship)

Ship (LASH ships), S:378

Acadian flycatcher (bird) picture on,

Acanthocephala

Animal (A classification of the animal kingdom), A:414

Acanthodian

Fish (The first fish), F:178

Acanthus, A:18 with picture

Acapulco |city, Mexico|, A:19 with pic-

Accelerando (music)

Music (table), M:727

Accelerating gap [physics]

Particle accelerator (How accelerators work). P:205

Acceleration [physics], G:2

Falling bodies, Laws of, F:15

Force, F:337

G [physics], G:2 Gravitation, G:308

Inertia, I:227

Mass, M:244

Motion (Acceleration), M:646

Velocity (Acceleration), V:325

Accelerator

Car (How a car works) diagram on, C:154

Accelerator, Particle

See Particle accelerator

Accelerometer [instrument]

inertial quidance, 1:227

Accelular microorganism

Microbiology (Microorganisms), M:430

Accent Imusic

Music (Rhythm), M:730

Accent [pronunciation], A:19

Accentor, A:19

Access control

Data protection, D:40 Accessories

Heraldry (Elements of a coat of arms),

H:160 Accessory [decoration] Interior decoration (Selecting accessories), I:286

Accessory [law]

Accomplice, A:20

Accident

Car (Driving safely), C:164; (Traffic accidents) C:176

Disaster, D:18

Earthquake., E:3

First aid, F:141

Safety, S:9

Accident, The [book by Wiesel] Wiesel, Elie, W:245

Accident and emergency medicine

Medicine (The specialities), M:311

Accipiter

Hawk, H:83

Accius, Lucius [Roman poet] Latin literature (Early Latin literature),

Acclimatization [biology], A:20

Adaptation, A:32 with pictures

Altitude sickness, A:289

Accolade

Knights and knighthood (Knighting),

Accommodation (physiology)

Eye (Focusing), E:438 with diagrams Longsightedness, L:382

Accommodations of Desire [painting

by Dalil

Dali, Salvador picture on, D:9

Accomplice, A:20

Accordant summit

Peneplain, P:257 Accordion, A:20 with pictures

See also Concertina

Account of Corsica [book by Boswell]

Boswell, James, B:477 Account of My Hut, An (book by Kamo)

Japanese literature (The medieval period). **E64**

Account of the Brotherhood

Rosicrucian Order, R:402

Accountancy, A:20

Audit, A:741

Bookkeeping, B:461

Accounting

See Accountancy

Accra [Ghana], A:21

Ghana, G:146; picture on G:148

Accretion [geology]

Life (Growth), L:245

Acculturation, A:21

Culture (Contact with other cultures).

CI:493 Accusative case

Case (Cases in Latin), C:225

Ace [aviator]

War aces, W:34 with picture

World War I (The war in the air).

Ace [card]

Card game, C:191

Ace (tennis)

Tennis (Terms used in tennis), T:143; (The serve) T:144

Acerentomon

ing by Exekias!

picture

Painting (Greek painting), P:46 with

Achilles' tendon, A:23 with diagram Insect (table), 1:261 Acerola, A:21 with picture Leg. L:153 Acom barnacle Achondrites [meteorites] Acesulfame-K Artificial sweetener, A:612 Meteorology, M:381 Acorn squash Achroite Acesulfame-potassium Tourmaline, T:313 Artificial sweetener, A:612 Acid, A:23 Acetabulum See also list of Related Articles Hip, H:217 leaderl Anhydride, A:375 Acetate (chemistry) Base, B:123 Cellulose (industrial uses), C:307 CI:378 Fibre (Regenerated fibres), F:67 First aid (Eye injury), F:146 Food additive, F:304 Textile (Manufactured fibres), T:170 Litmus, L:332 Acetate process Neutralization, N:104 Acoustic mine Rayon (How rayon is made), R:148 pH, P:356 Acetic acid, A:22 Phenolphthalein, P:361 M:482 Acid (The strength of an acid), A:24 Salt, Chemical, S:58 Cider, Ci:3 Ear (Diseases), E:12 Hydrogen (Hydrogen compounds), Soil (Chemical conditions), \$:22 14:405 Acid deposition Acid rain, A:24 Physics (Sound), P:473 Vinegar, V:395 Acid dye Acetone, A:22 Acetylcholine Dve (Kinds of dyes), D:362 Brain (The brain's chemical messen-Acid rain, A:24 drome Conservation (Energy conservation), gers), B:516 See AIDS Myasthenia gravis, M:748 Ci:298 Acetylene, A:22 Burnet, Sir Macfarlane, B:662 Energy supply (Environmental poliu-Acetone, A:22 tion), E:251 Calcium carbide, C:23 Environmental pollution (Outdoor air Gas (How gas is manufactured), G:55 pollution), E:301 with picture Tawney, Richard Henry, T:69 Hydrocarbon (Aliphatic hydrocarbons), Oxide. 0:536 Acre |Palestine| H:400 Rain (Variations in rainfall), R:118 Methane, M:382 Water pollution (Industrial wastes). Rubber (Neoprene rubbers), R:437 W:88 Acetylene torch [welding] Acid rock area). W:138 Acetylene diagram on, A:22 Rock music (Expanding styles and Acetylsalicylic acid sounds), R:312 Acid (Organic acids), A:24 **Acid** test Aspirin, A:668 Mineral (Other identification tests). Perseus, P:291 Achaeans (ancient people), A:23 MAJERIO Acrobatics Illad, 1:30 Acidaemia Achaemenid Empire Acidosis, A:24 Azerbaijan (History), A:897 Acidimeter Acromegaly Iran (History), 1:338 Hydrometer, H:407 Giant, G:151 Persia, Ancient (History), P:295 Acidosis, A:24 Acromion Sculpture (Middle Eastern), S:194 with Acis [Greek mythology] picture Cyclops, Ci:511 Tailkistan (History), T:14 Acklins lisland Turkmenistan (History), T:468 Bahamas (Land and climate), B:30 Slang, S:479 Acheampong, Colonel I. K. (Ghanaian Acrophobia political leader] Russian literature (Post-symbolism), Phobia, P:427 Ghana (History), G:147 Achebe, Chinua Nigerian authori, A:23 Acne, A:24 with diagram Acheron [mythology] Dermatology, D:128 Hades, H:4 Pore, P:691 Achievement test Skin (Other skin disorders), S:471 Testing, T:163 Aconcagua (mountain, Argentina), A:25 Achilles (legendary figure), A:23 Andes Mountains (Physical features), C:347 Agamemnon, A:154 Alexander the Great (His boyhood), Argentina (The Andine), A:558 with A1243 Hector, H:132 Mountain (table), M:668 with diagram Iliad, 1:30 South America (The Andes Moun-Priam. P:774 tains), So:92 with picture Trojan War, T:411 Volcano (table), V:419 with map by Lambert! Ulysses (The Trojan War), U:19 Aconite, A:25 with picture Achilles and Ajax Playing Dice |paint-Aconitine [chemical]

Aconite, A:25

Oak, 0:372 with pictures

Acorn, A:25

Plant (How plants protect themselves).

Barnacle picture on, B:113

Squash (Winter squashes), So:246 with

Acosta, Julio [Costa Rican political

Costa Rica (Revolutions and reforms).

Acoustic engineering Engineering, E:258

Mine warfare (Kinds of navai mines).

Acoustic neuroma

Acoustics [physics], A:25

Sound (Controlling sound), So:52 Acquired Immune deficiency syn-

Acquired immunological tolerance

Acquisitive Society, The Ibook by Taw-

Crusades (Other Crusades), Cl:464

Acre junit of measure]. A:26 Weights and measures (Surface or

Fibre (Synthetic fibres), F:67

Acrisius [Greek mythology]

Circus (At the circus), C:9 with pictures Gymnastics, G:440

Collarbone, Ck164

Abbreviation with table, A:5

Acropolis (Athens), A:26 with picture

Architecture (Classical Greek architecture), A:521

Athens picture on, A:705, A:707 Greece, Ancient (Land), G:347

Greece, Ancient (The Greek world),

Greece (Tourism), G:340

Acropolis Museum [Athens] Parthenon, P:204

Across Spoon River [book by Masters]

Masters, Edgar Lee, M:248 Across the Black Soil Plains | painting

Lambert, George Washington, L34 Across the Plains [book by Stevenson] Stevenson, Robert Louis (Stevenson's writings), So:322

Across the River and Into the Trees

Barber, Samuel, B:106

[work by Hemingway] Hemingway, Ernest, H:148 Acrylate See Acrylic Acrylic, A:26 Fibre (Synthetic fibres), F:67 Plastics (table), P:579; (Growth of the plastics industry) P:582 Rugs and carpets (Materials used in rugs and carpets), R:449 Textiles (table), T:170 Acrylic gesso Painting (Painting grounds), P:40 Acrylic paint Paint (Household paints), P:23 Painting (Synthetic resins), P:45 with picture Acrylic resin Paint (Industrial paints), P:24 Acrylonitrile Acrylic, A:26 Cyanide, Cl:508 Act of God Common carrier, C:222 Act of Uniformity Prayer Book, P:740, P:741 Act of Union [1707] See Union, Act of [1707] Act of Union [1801] See Union, Act of [1801] Acta Diurna [publication] Communication (During ancient times), Ci:229 Journalism (The first newspapers), J:151 Rome, Ancient (Transportation and communication), R:375 Actaeon Artemis, A:605 ACTH [hormone], A:27 Adrenal gland, A:57 Endorphin, E:244 Hormone (Endocrine control hormones), H:279 Multiple sclerosis, M:694 Steroid (The adrenal steroids), So:320 Heredity (Genes and proteins), H:170 Muscle, M:714 Acting Film industry (Assembling the cast), F:85; (Holding rehearsals) F:86 Opera (The singers), 0:458 Shakespeare, William (Acting companies), S:307 Television (Performers and presenters). T:122: (Rehearsals) T:123 Theatre (The performers), T:195 with picture Actinide

Element, Chemical (table), E:196

Rare earth, R:139

Lawrencium, L:121

Actinium (element), A:27

See Actinomycosis

Fungal disease, F:485

Actinomycosis, A:27

Actinide series

Actinomyces

Fish (The Age of Fishes), F:178 Action (gun) Firearm (Mechanism), F:137 Rifle (The parts of a rifle), R:274 Action [plano] Plano, P:482 with diagram **Action potential** Nervous system (Conduction along the axon), N:84 Actium, Battle of [31 B.C.], A:27 Navy (Ancient navies), N:60 **Active components** Electronics (Passive components), F:189 Active conjunction,, C:286 Active immunization Immune system (Active immunity), 1:41 Immunization, 1:44 **Active matrix LCD** Electronics (The development of electronics). E:193 Active verb Verb V:342 **Active voice** See Voice Igrammarl, V:415 See Ealing Acton, Lord [British historian], A:27 Actor-action-goal relationship Grammar (Grammatical relationships), C:288 Actor and actress See the lists of biographies in the Related articles of Film industry and Theatre Actors, The book by Porter Porter, Hal, P:696 **Acts of Supremacy** See Supremacy, Acts of Acts of the Apostles [New Testament], Bible, **B:274** lesus Christ, J:96 Actuary Insurance, E272 Acupuncture, A:28 with pictures China (Health care), C:444 Medicine (China and India), M:313 Acute glaucoma Eye (Diseases of the eye), E:441 Acute otitis media Ear (Diseases), E:12 Acyclovir (drug) Cold sore, Cl:159 Medicine (The medical revolution), M:317 A.D. icalendari, A:28 B.C., B:164 Calendar (The calendar today), C±34 Ad Dawhah [Qatar], D:242 Ad valorem tariff Tariff (Main kinds of tariffs), T:44 Ada book by Nabokovl American literature (Fiction and other prose), A:320 Nabokov, Vladimir, N:2

Adagio for Strings [music by Barber]

Actinopterygian

Adam, James (Scottish architect), A:28 Adam, Robert (Scottish architect), A:28 Architecture (Neoclassical architecture). A:529 with picture Drury Lane, D:326 Furniture (English neoclassical furniture). F:503 with picture Museum picture on, M:717 Adam, Where Art Thou? [book by Böil] Böll, Heinrich, B:431 Adam and Eve (Biblical figures), A:29 Eden, E:75 Adam Bede book by Eliot Eliot, George, E:211 Adam Malik See Malik, Adam Adams, Ansel iAmerican photographerl, A:30 Adams, Sir Grantley Herbert [West Indian Statesmanl, A:30 Barbados (History), B:103 Adams, Henry (American historian) American literature (Nonfiction writers), A:316 Adams, John [U.S. president], A:30 with picture Adams, Abigail Smith, A:30 Adams, John Quincy, A:31 Jefferson, Thomas (Political career), Adams, John C. (English astronomer) Neptune (Discovery), N:79 Adams, John Quincy (US president), A:31 Adams, Samuel [American patriot], A:31 Adam's apple Larynx, L:68 Trachea, T:323 Adams, Abigail Smith (wife of John Adamsl, A:30 Adams-Onis Treaty [1819], A:32 Adam's Rib [film] Cukor, George, Cl:488 Adams, Francis [Australian writer] Australia, Literature of (Other poetry), A:831 Adamson, George Adamson, Joy, A:32 Adamson, Joy lauthor and painterl, A:32 Adaptation, A:32 Acclimatization, A:20 Animal (The bodies of animals), A:396 Fish (Kinds of fish), F:154 Human being, H:346 Life, L:246 Plant (How plants change), P:564 Races, Human (Climatic adaptations), R:48 Adaptive control Machine tool (Numerical control of machine tools), M:18 Adaptive optics National Optical Astronomy Observatories, N:36

Adar (month)

Calendar (The Hebrew calendar), C:35

Adda River [italv] Lake Como, L:21 with map

Addams, Charles

Cartoon (Gag cartoons) picture on, C-217

Addams, Jane [American social reformer], A:33 with portrait American literature (Nonfiction writers), A:316

Nobel Prizes portrait on, N:234

Addax, A:33 with picture

Animal picture on, A:391 Adder, A:34 with picture

Viper, V:400

Adder's-tongue fern Fern picture on, F:57

Addiction

See Drug abuse

Adding Machine, The play by Ricel American literature (Drama), A:318 Drama picture on, D:299

Rice, Elmer, R:267

Adding machine, A:34

Abacus, A:3 with picture Burroughs, William linventorl, B:565 Calculator, C:24

Addington, Henry British prime ministerl, A:34 with portrait

Addls Ababa [Ethjopia], A:34 with picture

Ethiopia (People), E:338 picture on E:344

Addison, Joseph English essayistl, A:35

Essay, E:330

Steele, Sir Richard, So:310

Addison, Thomas [British doctor], A:35 Addison's disease, A:35

Disease (Noninfectious diseases). D:193

Addition [mathematics], A:36 with pictures

Algebra, with picture, A:253 Arithmetic, A:571 with picture Decimal system, D:69

Fraction (Calculations using fractions), F:387

Numeration systems (Binary arithmetic), N:346; (Decimal arithmetic) N:346; (Hexadecimal arithmetic) N:347

Subtraction (Checking by addition), So:376

Addition polymerization

Polymerization, P:661

Additive

Food (Processing), F:299 Livestock (Feed), L:338

Petrol (Petrol additives), P:330 with di-

Plastics (Making synthetic resins), P:580

Additive colour mixture

Colour (Mixing coloured lights), Ci:196 with picture

Address [computer] Computer (Memory), Ci:260

Address [correspondence] Letter writing (The inside address), L:189 with picture; (The envelope address) L:190 with pictures

Address, Forms of, A:40

Letter writing (The salutation), L:189 "Address to the Unco Guid" [poem by

Rurnsl

Burns, Robert (Burns's works), B:663

Adductor muscle

Hand diagram on, H:38

Oyster (The body of an oyster), O:539 Shell (Bivalves), S:346

Ade, George [American author], A:42 Adelaide [Australia], A:42 with pictures

and maps Australia, History of (Growth), A:809 South Australia, So:105 with pictures;

ColonizationSo:114

Adelaide Festival, A:46

South Australia, So:105; Visitors guide So:107 with picture

Adelaide Festival Theatre

Australia, Art and architecture of picture on, A:788

South Australia picture on, So:107

Adélie penguin

Animal picture on, A:407 Antarctica (Animal life), A:440 with picture

Penguin, P:256 with picture

Adelson e Salvini (opera by Bellini) Bellini, Vincenzo, B:231

Aden (city, Yemen), A:46

Yemen (History), Y:450 with picture

Aden Protectorate

Yemen (Formation of Yemen (Aden)), Y:450

Adena (people)

Mound builders, M:655

Adenauer, Konrad (German statesman), A:46 with portrait

De Gaulle, Charles André Joseph Marle (The Fifth Republic), D:87

Germany (West Germany), G:138

Adenine

Cell (Cell research), C:303; (Producing energy) C:298

Heredity (The structure of DNA), H:170

Nucleic acid, N:341 Adenoidectomy

Adenoids, A:47

Adenoids, A:46 with diagram Tonsil, T:296

Adenosine deaminase (ADA)

Heredity (The era of genetic engineering), H:174

Adenosine triphosphate (ATP)

Aerobics, A:70

Biosynthesis, B:314

Cell (Producing energy), C:296 Muscle (How muscles contract), M:715

Respiration (Cellular respiration),

R:240

Ader, Clément [French engineer] Aeroplane (Powered flight), A:77

Adhesion (physics), A:47

Adhesion [physiology], A:47 Adhesive, A:47

Mucilage, M:682

Gum, G:427

Woodworking (Fastening), W:307

Adhesive compress

Bandage, B:75

Adi Granth (Indian sacred text) A:47 India, Literature of (Punjabi literature),

1:127

Nanak, N:14

Adija, Gopal Krishna (Indian writer) India, Literature of (The search for

modernity), I:129

Adirondack Mountains New York

Statel, A:47

New York [state] (Adirondack Upland), N:140

Adit

Mining (Underground mining methods), M:493

Adityavarman (king of Melayu), A:48

Adjective (grammar), A:48

Adverb (Simple adverbs), A:59; (Adverb ctive confusion) A:59

Comparison, Cl:248

English language (Grammar), E:281 French language (French grammar),

F:443

Grammar, G:287

Irish language (Features of Irish), 1:380 Italian language (Italian grammar),

Participle, P:205

Spanish language, So:192

Welsh language (Speaking Welsh),

Adjutant [bird], A:49 with picture

Adier, Alfred [Austrian psychiatrist], A:49

Freud, Sigmund (His life), F:457

Adler, Dankmar [American architect],

Architecture (Early modern architecture in America). A:534 Wright, Frank Lloyd, W:417

Adler, Larry (American musician)

Harmonica, H:62

Adlerian psychology Adler, Alfred, A:49

Administration

Political science (Public administration). P:653

Administrative county

County, Ci:397

Administrative department

Law (Branches of law), L:110

Administrative law Law (Public law), L:111

Law (table), L:112

Administrator [law]

Executor, E:414

Will (Administration), W:254

Admirable Crichton, The play by Bar-

Barrie, Sir James Matthew, B:119

Admiral [rank], A:50

Admiral Graf Spee [ship] Graf Spee, G:282

Admiral of the Ocean Sea (book by

Morisonl Morison, Samuel Eliot, M:607

Admirals All [poetry by Newbolt]

Adventure (ship) Newbolt, Sir Henry, N:176 (table) G:182 Cook, James (The second voyage), Hormone (Human hormones), H:277 Admiralty, A:50 Cl:330 Admiralty Islands [Pacific], A:50 with Human body (The endocrine system), Adventure story fantasy H:358 pictures Literature for children, L:322 See also Adrenaline; Steroid Admiralty law Adventure Story [play by Rattigan] Admiralty, A:50 Adrenal steroid Rattigan, Sir Terence, R:144 Steroid, So:320 Maritime law, M:211 Adventures in the Skin Trade | work Adrenaline, A:57 Admission [law] Adrenal gland, A:57 by Thomas! Confession [law], Cl:277 Thomas, Dylan, T:222 Drug (The drug revolution), D:318 Adobe, A:50 with pictures Adventures in Two Worlds book by Hormone (Stress hormone), H:278 Ecuador (People), E:68 Cronin Adrenocorticotropic hormone Indian, American (Shelter), I:139 Cronin, A. J., Ci:452 See ACTH Peru (Housing), P:310 Adventures of a Young Man Inovel by Adrian (Roman emperor) Adobo [food] Dos Passos Philippines (Rural life), P:373 See Hadrian Dos Passos, John, D:271 Adrian IV popel. A:58 Adolescent, A:51 with pictures Adventures of Augle March, The Counter Reformation, Cl:392 Child, C:403 (book by Bellow) Adrianople, Battle of Developmental psychology, D:144 Bellow, Saul, B:231 Army (table), A:593 Drug abuse, D:320 Novel (After World War II), N:314 Edirne, E:80 Family, F:19 Adrianople, Treaty of Adventures of Huckleberry Finn Growth (Human growth), G:388 Turkey ("The Sick Man of Europe"), (book by Twain) Homosexuality, H:258 American literature (Mark Twain and T:463 Juvenile court, J:175 Henry James), A:316 Adrianople Minor, M:499 Novel (The United States), N:313 See Edime Personality (Personality and environ-Twain, Mark, T:479 **Adriatic Plain** ment), P:300 Adventures of Master F. J., The book Italy, I:460 Physical education, P:469 with pic-Adriatic Sea, A:58 with map by Gascolonel tures Gascoigne, George, G:60 Adrienne Lecouvreur play by Scribel Recreation, R:168 Adventures of Pinocchio, The book Scribe, Augustin Eugène, S:184 Sex. S:289 by Collodil Adsorption Sex education, S:292 Collodi, Carlo, Cl:166 See Absorption and adsorption Sexually transmitted disease, \$:293 Adventures of Tom Sawyer, The Adult education University, U:266 (book by Twain) Correspondence school, Ci:365 Vandalism, V:307 American literature (Mark Twain and Education (Kinds of education), E:84 Adolphus, Gustavus [king of Sweden] Henry James), A:316 Illiteracy, I:32 See Gustavus Adolphus Twain, Mark, T:479 Library (Services for adults), L:217 Adonai (Hebrew god) Adventures of Uncle Sam, The [book] United States (Schools), U:199 with God. G:224 Uncle Sam, U:20 picture lehovah, I:81 Adverb, A:59 Adulthood Adonais [poem by Shelley] Advertising, A:60 with pictures Adolescent, A:51 Keats, John, K:208 Cartoon (Illustrative and advertising Developmental psychology, D:144 Shelley, Percy Bysshe, S:349 cartoons), C:218; (Creating a car-Growth (When people stop growing), Adonis [Greek mythology], A:56 with toon) C:218 G:388 picture Cigarette, Cl:3 Minor, M:499 Adonis [plant], A:57 with picture Commercial art. Cl:219 Sleep, S:484 **Adonis Biue** Voting, V:427 Film Industry (Distribution), F:94 with Butterfly picture on, B:682 Adur [England], A:58 Adoption, A:57 Magazine (Scheduling the advertising). Advalta Family (Family relationships), F:20 Mc41; (How magazines earn in-India, Philosophy of (Advaita), 1:135 See also Foster parent come) M:41 Advance Australia Fair Adoration of the Kings | painting by Magic (Magic today), M:47 Australian National Anthem, A:833 Leonardo da Vincil Marketing, M:213 **Advanced Development Program** Leonardo da Vinci (Early life), L:177; Newspaper (Business operations), National Optical Astronomy Obserpicture on L:178; (Early paintings) N:183 vatories, N:36 LITRO Propaganda (Businesses), P:806 Advancement of Learning, The book Adrenal cortex [anatomy] Public relations (Methods), P:841 by Francis Bacon, philosopheri Addison's disease, A:35 Publishing (Marketing the book), P:845 Bacon, Francis, B:18

Adrenal gland, A:57 with diagram Radio (Stations and networks), R:79 Philosophy (Modern philosophy), Cortisone, Cl:368 Salesmanship, S:49 P:424 Hormone (Metabolic hormones), Suggestion, So:395 H:278; (Blood composition hor-Advection fog Television, T:118; (Commercial televi-Fog, F:284 with diagram mones) H:278 sion) T:119 Advent, A:58 Adrenal gland, A:57 with diagram Tobacco (History), T:272 Christmas (Religious practices), C:492 ACTH, A:27 Advertising agency with picture Addison's disease, A:35 Advertising, A:66 Adventists | religious group|, A:58 Adrenaline, A:57 Public opinion poll (Business compa-Seventh-day Adventists, S:283 Androgen, A:57 nies), P:839 **Adventitious root** Cortisone, Ch368 Advertising campaign Root (Kinds of roots), R:392 Gland (Endocrine glands), G:182;

Aeneld [poem by Virgil] Dido, D:167 Epic, E:311 Juno, J:170 Laocoon, L:57 with picture Mythology, M:759 Neptune (god), N:78 Poetry (Ancient poetry), P:613 Trojan War, T:411 Aeollan harp, A:69 Aeolians (ancient people), A:69 Acolus (Greek mythology), A:69 Aequanimitas [book by Osler] Osler, Sir William, 0:510

Aer Lingus Airline (table), A:206 Aerated water Mineral water, M:489 Aerlal, A:69 See also Dish aerial Radar, R:61 Radio, R:79 **Aerial observation** Helicopter (For aerial observation),

H:132 Aerial perspective (drawing technique) Leonardo da Vinci (Paintings), L:180 Perspective, P:302 with picture

Aerial photography Archaeology, A:501 with picture Map (How maps are made), M:189 with pictures Photogrammetry, P:439 with picture Road (Planning), R:296 Aerial root

Root (Kinds of roots), R:393 Aerial surveying Photogrammetry, P:439 with picture

Surveying (Types of surveys), So:445 Aerle

Eagle (The life of an eagle), E:3 with picture Aerobatics

Aeroplane (Special-purpose planes), A:89 with picture Aerobe

See Aerobic bacteria Aerobee [rocket] Space exploration (The first space

rockets), So:140 Aerobic bacterla

Bacteria (Where bacteria live). B:21 Environmental poliution, E:304 Water pollution (Effects), W:89 Aerobics [exercises], A:70

Running, R:458

Glider, G:205

Aerobics ibook by Cooperl Running, R:458 Aerodynamics, A:70 with picture and

diagrams See also list of Related Articles Aeroplane (First manned flights), A:76 Engineering (The branches of engineering), E:254

Propeller, P:807 Sailing (Why a boat sails), \$:25 Aerofiot (airline)

Russia (Transportation and communication), R:483 Aerofoli

Aerodynamics (Principles of aerodynamics), A:71

Aeroplane (The parts of an aeroplane), Add Aeronautical beacon

Beacon, B:164 **Aeronautical** chart

Aeroplane (Learning to fly), A:101 with diagram

Map (Mobility map), M:183 Aeronautics

See also list of Related Articles Air (Air resistance), A:185 Air conditioning (Air conditioners for vehicles), A:193 Aviation., A:878 Bomber, B:443 with pictures Fourth dimension, F:376 Inertial guidance, 1:227 Invention (Technical capacity), I:313 Laser (Guiding), L:71 Ship (Ocean liners), S:375 Signalling (Aircraft signalling), \$:375, S:416

Aeroplane, A:74 with pictures

Transportation (Air transportation), T:349; (The beginnings of modern transportation) T:354 with pic-

Weather (Other observation facilities), W:TED Wind tunnel, W:269

Aeroplane, Model, A:106 with pictures Aeroplane engine See Engine

Aeroplane system See Hydrofoil Aerosol, A:107 with diagram Air (Particles in the air), A:184

Colloid, Cl:166 Insecticide (Spraying and dusting), 1:264

Ozone, **0:542** Aerosol can Packaging, P:18

Aerospace Space exploration (Space exploration terms), So:130

Aerospace engineering Engineering, E:254, E:255 with picture Aerospace Industry

See Aviation Aerospace medicine, A:107 Aeschylus (Greek dramatist), A:108 Drama (Tragedy), D:286

Greek literature (Drama), G:357 Sophocles, So:44 Aesculapius

See Asclepius Aesop [Greek storyteller] See Aesop's Fables

Aesop's Fables (stories), A:108 Allegory, A:272 Fable, F:2 La Fontaine, L:14

Aesthetic book by Crocel Croce, Benedetto, Ci:446 Aesthetic Education of Mankind

Philosophy, P:422

[book by Schiller]

Schiller, Johann Christoph Friedrich von. S:125 Aesthetics, A:108

Art and the arts (The aesthetic experience), A:600; (Enjoying the arts) A:602; (Studying the arts) A:603

Aestivation, A:109 Animal (Animals of the desert), A:390

Fish (How fish rest), F:174 See Aeroplane; Aviation Hibernation (Other kinds of dor-

mancy), H:190 Reptile (Hibernation), R:233 Snake (Regulation of body temperature), S:511 Toad (The life of a toad), T:268 Aëtius, Fiavius [Roman military leader] Valentinian III, V:302 Aetna, Mount See Mount Etna AF amplifier Radio (Amplifiers), R:77 Afan [Wales], A:109 Afar lethnic group! Difboutl, D:216 Afars and Issas See Diibouti AFC See Automatic Frequency Control Afer, Publius Terentius See Terence Affective disorders Mental illness, M:352 Affel, Herman A. [American engineer] Cables (The spread of telephone cables), C:6 Affenpinscher, A:109 with picture Dog picture on, D:234 Affidavit [law], A:109 Affinity sociology Family (Family relationships), F:20 **Affirmative action** South Africa (Labour force), So:67 Affluent Society, The (book by Galbraithl Galbraith, John Kenneth, G:11 Afforestation Forestry (Planting), F:357 Afghan hound, A:109 Dog picture on, D:229 Afghan Turkestan Turkestan, T:453 Afghanistan, A:110 with pictures and See also list of Related Articles Aviation (Aircraft nationality marks), A:RB1 Carter, Jimmy, C:213 Cold War (The end of the Cold War), Communism (Communist influence in other areas). Ci:242 Flag picture on, F:204 Gorbachev, Mikhail Sergeyevich (International policies), G:257 Guerrilla warfare (History), G:405 with picture Kabul, K:178

Khyber Pass, K:243

Agriculture, A:166

AIDS (Cause), A:179

Bell picture on, B:227

Turkestan (Afghan Turkestan), T:453

Aflaq, Michel [Arab political thinker],

Africa, A:116 with pictures and maps

Arabs, A:489 with pictures and maps

See also list of Related Articles

Afghanistan), U:178

United Nations (The Soviet invasion of

are found), D:154 picture rior of Africal E:425 Great Rift Valley, G:325 L:52 Library, L:226 Manufacturing, M:168 Mountain systems, M:667 music) M:736 Nubia, N:317 Petroleum, P:338 Pottery picture on, P:723 theory R:44 Safari, S:8 Sleeping sickness, S:485 Africa), U:178 Zinjanthropus, Z:498 African Association E:425 African clawed-toad African elephant ture on A:385 Ear picture on, E:13 African emerald cuckoo Bird picture on, B:326 African fish eagle Bird picture on, B:327 Eagle (Other kinds of eagles), E:5 African giant swallowtail Butterfly (Swallowtail), B:684

African goose

Goose (Kinds of goose), G:254 Bird (Birds of Africa), B:357; (Endangered species) B:357 African jacana Bird picture on, B:327 Christmas, C:492 Clothing (Traditional costumes) pic-**African Lakes Corporation** Malawi (History), M:80 tures on. Cl:94 Columbus, Christopher (Young adult-African linsang hood). Cl:206 Civet. Ci:39 African lion Conservation, Cl:303 with picture Continental divide, Ch:316 Animal picture on, A:385 Continental drift, Ci:316 Lion, L:298 with pictures Dancing, D:25 with picture D:27 African Ilon hound See Rhodesian ridgeback Decorations, medals, and orders, D:75 Diamond (Where natural diamonds African live-bearing toad Toad (Kinds of toads), T:269 African National Congress (ANC), Doll (Traditional dolls), D:244: (Doll festivals and customs) D:244 with A:154 Apartheld, A:469 De Klerk, F. W., D:90 Exploration (The voyage around Luthuli, Albert John, L:420 Africa), E:421 with map; (The inte-Mandela, Nelson, M:150 Pan-Africanist Congress of Azania, Football, Association, F:334 Political parties picture on, P:652 Immigration (1960-present day, New Ramaphosa, Cyril, R:129 patterns of immigration), 1:37 South Africa (Political parties), So:58 Language (Other language families), South Africa, History of (Black politics), So:83; (Opposition to apartheid) So:85;; (The end of apartheid) So:86; (South Africa today) So:86 Tambo, Oliver, T:19 Music (Arab music), M:735; (African African palm swift Swift. So:480 National Parks, N:37 with picture African pancake tortoise Tortoise, T:307 African Party for the Independence of Cape Verde Races, Human (Systems of racial classi-Cape Verde, C:141 fication), R:43; (The geographical African pompano Pompano, P:663 Religion, R:197 with picture African puff adder Royal families, R:422 with picture Snake picture on, \$:510 African pygmy squirrel Slavery (The Middle Ages), 5:480; Squirrel, So:254 (Modern times) S:481 African Queen, The [novel] Forester, C. S., F:355 United Nations (Problems in southern African rock python Python, P:878 World, History of the (African civiliza-African sculpture tions), W:341 with pictures Sculpture, S:202 with pictures African snall Snail picture on, S:503 Exploration (The interior of Africa), African Squadron Perry (Matthew Calbraith Perry), P:291 African violet, A:154 with picture Toad (Kinds of toads), T:268 Flower picture on, F:260 **African Democratic Rally Party** Gardening (Some popular house Burkina Faso (History), B:655 plants) picture on, G:41 Animal (Protected areas), A:413; pic-African vulture Animal picture on, A:385 Vulture, V:429 Africana [documentary painting] Elephant, E:202 with pictures South Africa, Art of (Colonial painters), So:71 with picture Afrifa, Brigadier Akwasi Amankwa (Chanalan political leader)

Ghana (History), G:147

Afrikaans language, A:155

South Africa (Languages), So:59

Afrikaner Broederbond, A:155

Afro-Asian language South Africa, History of (World War II), So:84 Afro-Asian language Africa, A:124 Language (Language families), L:52 Afsluitdlik Netherlands picture on, N:94 After the Fall play by Miller Miller, Arthur, M:473 Afterbirth Baby (Birth), B:6 Childbirth (The birth process), C:411 Placenta, P:531 Reproduction, Human (The stages of labour), R:230 Afterburner let propulsion (Turbolet), J:103 Afterdamp [gas] Damp, D:18 Afterimage Colour (Surprising colourvision effects), Cl:194 with picture See Life after death Afternoon Men [book by Powell] Powell, Anthony, P:731 Aftonian interglacial period Ice Age (Development of the Pleistocene Ice Age), I:6 Ag (symbol) Silver, **S:427** Agadez (city) Niger (History), N:205 Against Heresies (book by Irenaeus) Irenaeus, Saint, 1:378 Against Interpretation (essays by Son-Sontag, Susan, So:42 Against jovinian (book by Jerome) Jerome, Saint, J:86 Agal [clothing] Arabs (Clothing), A:492 Agamemnon llegendary figurel, A:155 Achilles, A:23 Iphigenia, I:329 Illad. 1:30 Lesbos, L:184 Trojan War (The beginning of the war), T:411; (The siege of Troy) T:412 Agamemnon | play by Aeschylus| Aeschylus, A:108 Trojan War, T:411 Agamemnon [ship] Nelson, Horatio (Wounded at Calvi), Agana Guam, G:391; picture on G:392 Agar-agar, A:155 Algae (Red algae), A:250 Aquaculture, A:483 Bacteriology (Studying bacteria), B:22 Seaweed (Uses), S:232

Agassiz, Lake

portrait

See Lake Agassiz

Agate, A:155 with pictures

Agassiz, Louis (naturalist), A:155 with

Chalcedony, C:336 with picture

Geology (Experimental geology), G:93

Gem picture on, G:72 Agave Century plant, C:324 with picture Maguey, M:60 with picture Agave weevil Beetle picture on, B:199 Agbade (clothing) Benin (People), B:237 Age, A:155 Earth (The earth's age), E:23 Population, P:685 Age group Swaziland (People), So:457 Age of Anxiety, The [poem by Auden] Auden, W. H., A:738 Age of Chivairy, The Ibook by Bulfinchl Bulfinch, Thomas, B:632 Age of Exploration Age (Historic ages), A:156 Age of Fable, The [book by Bulfinch] Bulfinch, Thomas, B:632 Age of Fishes Devonian Period. D:148 Prehistoric animal (Early forms of animal life), P:744 Age of Imperialism Imperialism, I:46 Age of Innocence, The book by Whar-Wharton, Edith, W:214 Age of Innocence, The lpainting by Reynolds] Reynolds, Sir Joshua picture on, R:249 Age of Liberty Sweden, So:474 Age of Mammals Mammal (The Age of Mammals), Prehistoric animal, P:747 **Age of Pericles** Age (Historic ages), A:156 Age of print McLuhan, Marshall, M:290 Age of Realism American literature, A:315 Age of Reason, A:156 Diderot, Denis, D:167 Education, E:94 Europe, **E:388** France, F:402 Freedom, F:434 Freedom of speech (History), F:437 French literature, F:448 Invention, 1:316 Italian literature, 1:445 Literature (History), L:314 Philosophes, P:419 Philosophy, P:425 Roman Catholic Church, R:343 Rousseau, Jean-Jacques, R:413 with picture Science (The Age of Reason), S:147 Women's movement, W:294 Age of Reason (book by Paine) Paine, Thomas (French revolutionary), P:22 Age of Reptiles

Dinosaur, D:175 with pictures

Earth (The Mesozoic Era), E:27 with

picture; (table) E:30 Prehistoric animal (The Age of Reptiles). P:745 with pictures and table Prehistoric animal (The world of prehistoric animals). P:743 with table Age of technology Technology, T:83 Age of Uncertainty, The book by Galbraith] Galbraith, John Kennedy, G:11 Age regression Hypnotism (Hypnotic phenomena), FE414 Age-specific birth rate Birth and death rates, B:366 Age spot Skin (Skin colour), \$:470 Agee, James (American writer), A:158 Agee on Film (work by James Agee) Agee, lames, A:158 Agent, A:158 Agent Orange [herbicide], A:158 Dioxin, D:184 Herbicide (Hazards of herbicides), 10162 Agents and Patients (book by Powell) Powell, Anthony, P:731 Ageratum, A:158 with pictures Aggiornamento (religion) Vatican Council II (Background), V:318 Agglomerate Rock (Extrusive rocks), R:307 Aggregate Cement and concrete (Materials), C-312 Rock, R:307 Aggregate culture Hydroponics (Methods of hydropontes), H:408 Aggregate fruit Fruit (Compound fruits), F:475 with picture Plant (Seeds), P:555 Aggression, A:159 Agincourt, Battle of, A:159 Aging, A:159 Deafness (Aging), D:56 Gerlatrics, G:105 Progeria, P:795 Skin (Skin colour), S:470 See also Life expectancy; Middle age; Old age Agitator washing machine Washing machine, W:51 Aglaia (Greek mythology) Graces, G:281 with picture Agnatha Fish (A classification of fish), F:179 Agnes Grey (book by Anne Brontë) Brontë sisters (Their works), B:587 Agnon, Shmuel Yosef (Israeli writer), A:159 Hebrew language and literature (Modern Hebrew literature), H:130 Israel (The arts), 1:433

Agnosticism (religion), A:159

God (Ideas about God), G:225

Hume, David (His philosophy), H:366

U:172: (Aid to refugees) U:171 with Huxley, Thomas Henry, H:392 ing), H:174 Religion (Belief in a deity), R:197 Hormone (Agricultural uses), H:280 picture Aida (opera by Verdi) Human being (Agricultural societies), Agony painting by Gorkyl Opera, 0:467; picture on 0:456 Gorky, Arshile picture on, G:261 ы-зая Verdi, Giuseppe, V:345 Invention (The 1900's), I:319 Aideed, General (Somalian cian leader) Nitrogen (Nitrogen in agriculture), Athens (Other buildings), A:707 Greece, Ancient (The land), G:347 with Somalia (History), So:36 N:222 Prehistoric people (The rise of agricul-Aidit, D. N., A:179 picture ture), P:758; (Changes in lifestyle) AIDS, A:179 Agoraphobia Blood (Infections), B:400 P:760 Mental illness (Phobias), M:352 Disease (table), D:190; (Viral diseases) Technology (Increased production), Phobias, P:427 T:84 Agouti, A:160 with picture Drug abuse (Effects of drug abuse), See also Rodent Agrimony, A:177 Agrippa, Marcus Agra [India], A:160 Haemophilia (Treatment), H:6 Actium, Battle of, A:27 Uttar Pradesh (Places to visit), U:291 Aqueduct (Ancient aqueducts), A:485 Homosexuality (Attitudes to homosexwith picture uality), H:258 Augustus (Rise to power), A:745 Agraphia (disorder) Sexually transmitted disease, S:293 Agrippina the Younger Imother of Aphasia, A:471 AIDS and its Metaphors (book by Son-Nerol, A:177 **Agrarian Revolution** Claudius, Cl:69 tagl United Kingdom, History of the (En-Nero, N:80 Sontag, Susan, So:42 gland after 1763), U:142 **AIDS** quilt Agrobacterium tumefaciens Agreement (grammar) AIDS picture on, A:181 Gall, G:14 Language (Linguistic term), L:51 Aiguille du Midi (mountain, Europe) Agrochemical Pronoun. P:801 Imperial Chemical Industries (ICI), 8:45 Mont Blanc, M:572 Agribusiness, A:160 Alkido Agronomy (agricultural science), A:177 Agricola, Georgius [German geologist] Japan (Recreation), 5:43 Agua de panela idrinki Geology (The Renaissance), G:92 Colombia (Food and drink), Ch171 Martial arts, M:230 Agricola, Gnaeus Julius (Roman gen-Allanthus, A:182 Aguardiente (drink) erall. A:160 Latin America (Food and drink), L:82 Alteron Scotland, History of, S:167 Aeropiane (Basic movements and con-Aguinaldo, Emilio (Filipino patriot), Agricultural Adjustment Administratrois), A:97 A:177 tion (AAA) Agilita (drink) Aeroplane (Wing), A:89 New Deal (Helping the farmers), N:110 Chile (Food and drink), C:418 Glider (The wings), G:207 Agricultural chemicals and wastes Aguiyi-Ironsi, Johnson (Nigerian gen-Ainu (people), A:182 Water pollution, W:89 Asia (People), A:638 eral] Agricultural engineering lapan (People), 1:39 with picture Nigeria (Civil war), N:214 Engineering (Other specialized fields), Agung, Sultan [ruler of Mataram], A:177 Kuril Islands, K:342 E:258 Sakhalin, S:47 Ahab [king of ancient Israel], A:177 Agricultural entomology Air, A:182 with pictures Elijah, E:210 **Entomology (What entomologists** See also list of Related Articles Ahaggar Mountains [Algeria] study), E:298 Algeria (The Sahara), A:264 Aerodynamics, A:70 **Agricultural Revolution** Sahara (Land and climate), S:19 Anaximenes, A:351 Agriculture, A:173 Empedocles, E:231 Ahasuerus (king of Persia) Invention (The Age of Reason), 1:316 let stream, 1:107 Esther, Book of, E:335 Agriculture, A:161 with pictures Liquid air, L:304 Purim, P:865 See also list of Related Articles Soil (Composition of soils), So:20 Ahern, Bertle [Irish politician], A:178 Air pollution, A:203 Sound (table), So:49 Alps, A:286 **Ahimsa** Air, Liquid Animal husbandry, A:418 Hinduism, H:210 Ahmad Khan, Sayed [Muslim educator] See Liquid air Arabs, A:492 Air attaché Pakistan (British control), P:98 Aztec. A:901 See Attaché Ahmadabad (India), A:178 Civilization (How civilizations develop), Gujarat, G:420; (Places to visit) G:422 Air attack Ci:49 Airborne troops, A:204 with picture with picture Clay, Ci:69 Aircraft carrier, A:203 with pictures **Ahmadu Bello University** Colonial life in America (Farming), See also Radar Nigeria (Education), N:209 Ci:184 with pictures Air bladder Ahoms [tribe] Culture (Invention), Cl:493 Ear (The ears of animals), E:13 Assam (History), A:670 Environmental pollution (Agriculture), Fish (Special organs), F:170 with pic-Ahtissari, Marti [Finnish president] Finland (Recent developments), F:123 Food supply (Methods to Increase the Sound (Animal sounds), So:46 Ahura Mazda [Persian god] food supply), F:313; (The relation Air-blast freezing Parsees, P:202 between food production and Food, Frozen, F:303 Persia, Ancient (Religion), P:293 with population) F:312 Air brake Genetic engineering (in agriculture), Brake, B:521 with diagram Zoroastrianism (Beliefs), Z:507 Westinghouse, George, W:193

Sloth, S:488

United Nations (UN) (Aid to children),

Ald

Air Canada (airline)

Air cleaner, A:189

Airline (table), A:208

Helicopter (For agricultural and for-

estry operations), H:138 with pic-

Heredity (The era of genetic engineer-

Aircraft instruments diagram Air conditioning (Cleaning the air), Aeroplane, A:93 with pictures Tyre (History), T:491 A:191 Aircraft weapon See also Atmospheric pressure Carburettor (The venturi tube), C:191 Machine gun, M:14 Air pump Deodorizer, D:122 Airedale terrier, A:207 Petrol engine (Fuel system), P:334 See Pump Dog picture on, D:232 Air quality standards Air compressor, A:190 Airframe Air pollution, A:203 Air conditioning, A:190 with pictures Air Raid (poetry by MacLeish) and diagrams MacLeish, Archibaid, M:21 Air cleaners (Uses), A:189 Airlangga (ruler of Kediri), A:207 Air resistance Dehumidifier, D:89 with diagram Airline, A:207 with pictures Air, A:185 with diagram Filter, F:109 Air rights, A:203 with picture Heat pipe, H:122 ture, A:879 Solar energy, So:25 Air route Aviation (Aviation agencies), A:880 Air-conduction Air route traffic control centre traffic), A:884 Hearing aid (Types of hearing aids), Aviation (Aviation agencies), A:861 H:97 pictures Air curing Bird (The respiratory system), B:352 Tobacco (Kinds of tobacco), T:269; Aviation (A new age of flight), A:885 Human body (The air passages), H:355 (Harvesting tobacco) T:270; (Cur-Airliner with diagram ing tobaccol T:271 with picture Lung (Parts of the lungs), L:414 with di-Air cushion vehicle agram See Hovercraft Air defence Air-speed indicator pictures Navigation, N:51 Radar, R:55 Airmail, A:208 Air-to-air missile (AAM) Air embolism Diving, Underwater (Dangers of un-Guided missile, G:409 with picture Air-to-surface missile (ASM) derwater diving), D:209 Guided missile, G:409 Air force, A:195 with pictures

See also list of Related Articles Air France

Airline (table), A:208 Air India

Airline (table), A:208 Air lock, A:201 with diagram Nuclear reactor (The safety system),

N:334

Space exploration (Leaving the spacecraft), So:138

Air mail See Airmail

Air mass

Air (The study of air), A:188 Weather (Weather terms), W:111; (Air masses) W:114

AYr Mountains [Niger] Niger (Land and climate), N:204

Air movement (weather) Alr, A:185

Air passages [anatomy] Human body, H:355

Air pioneers

Aeropiane (History and development), A:76 with pictures

Air piracy Aviation (A new age of flight), A:885 Highjacking, H:199

Air pollution, A:201 with pictures and diagram

Czech Republic (City life), Cl:517 Environmental pollution (Air pollution), E:301

Iron and steel picture on, I:401 Mexico (City life), M:401

Mexico City (Environmental problems), M:429

Ozone, 0:542 Persian Gulf War (The war), P:298

Air pressure Air (Weight and pressure), A:184 with Air traffic control

Aeropiane (Other navigation methods),

Airport, A:213; (The control tower)

Radar (In aviation), R:54 with picture Air train

Hovercraft (History), H:333 Air transportation

Transportation, T:349 with pictures Air travel

Transportation (The beginnings of modern transportation), T:354 with pictures

See also Aeroplane; Aviation Air V.C.s, The book by Johns] Johns, W. E., J:132

Airborne troops, A:204 with picture Parachute (Uses of parachutes), P:159

Airbrush, A:205 with pictures **Alrbus**

Aeroplane picture on, A:87 Aircraft

Aeroplane, A:231

Airship, A:217 with pictures Autogiro, A:870 with picture Aviation (Aircraft manufacturing), A:879

Bailoon, B:60 with pictures Glider, G:205 with pictures Helicopter, H:136 with pictures

Ornithopter, 0:505 V/STOL, V:428 See also Guided missile; Remote con-

trol: Rocket Aircraft carrier, A:205 with pictures

Battleship, B:157 Navy picture on, N:57; (Ships and aircraft) N:59

Warship, W:43; (The development of warships) picture on W:45

Aeroplane (The parts of an aeroplane),

Aviation (Airline operations) with pic-

Aviation (Growth of airline passenger

Aviation (The first airlines), A:883 with

Airline Deregulation Act (U.S.A.)

Aeroplane (Long-distance airliners),

A:85 with pictures; (Commercial and transport planes) A:86 with

Aeroplane (The golden age), A:80 Aviation (The first airlines), A:883; (Aviation progress) A:883 with picture

Post office (The growth of airmail service), P:715

Airplane See Aeroplane Airport, A:209 with pictures

See also list of Related Articles Airline picture on, A:206 Aviation (Airport operations), A:880

with pictures Airscrew See Propeller

Airship, A:217 with pictures Aeroplane (First manned flights), A:76

with picture Balloon, B:60 Blimp, B:387

Airy, Sir George B. lEnglish astrono-

Neptune (planet) (Discovery), N:79

Alsne River [France], A:220

Altken, John (Scottish meteorologist),

A:220

Altken, William M. See Beaverbrook, Lord

Altertaki

Cook Islands, Ch332 with map Aitvs

Kazakhstan (People), K:204

Aix-la-Chapelle

See Aachen

Alx-la-Chapelle, Congress of [1818], A:220

Aix-la-Chapelle, Treaty of [1818]

Maria Theresa, M:204 Succession wars (The War of the Aus-

trian Succession), So:378 Ajaccio (Corsica)

Corsica (Size and description), Cl:367 with map

Ajanta (ruins) India, Art of (Cave temples), 1:85 Maharashtra (Places to visit), M:66 with picture

Ajax the Greater [Greek mythology]. A:220

Ajax the Lesser [Greek mythology], A:220

Ajiaco [food]

Colombia (Food and drink), Ci:171

Aiman (state)

United Arab Emirates, U:38

Aimer (India)

Rajasthan (Places to visit), R:126

Aloupa (dwelling)

Trinidad and Tobago (History), T:407

Akan (people)

Ivory Coast (People), 1:475

Akanyaru River [Rwanda]

Rwanda (Land), R:507 with map

Akbar [Mughal emperor], A:220 with portrait

India, History of (Akbar the Great), 1:109; picture on 1:111 Jammu and Kashmir (History), J:27

Mughal Empire, M:683

Akbulut, Yildirim [Turkish political leader)

Turkey (Recent developments), T:465

Akeman Street

Roman roads, R:347

Akhenaton (king of ancient Egypt), A:221 with portrait

Akhnaten lopera by Glassi Glass, Philip, G:201

Aklaloa

Hawaiian honeycreeper picture on, H:83

Akiba ben Joseph

See Akiva ben Joseph

Akihito [emperor of Japan], A:221 with portrait

Hirohito (After the war), H:221 Japan (Postwar boom), J:60; (Recent

developments) J:60

Mikado, M:461

Royal families (Japan), R:420; picture on R:418

Aklta, A:221 with picture

Akiva ben Joseph ireligious leaderl, A:222

Akkad

Babylonia (History),, B:15 Sargon of Akkad, S:92

Akkadlan (ancient people)

Babylonia (The Semites), B:15 Mesopotamia, M:371

World, History of the (The Tigris-Euphrates Valley), W:332

Akkadian language

Hittites (Way of life), H:232

Akosombo dam [Volta River]

Dam (table), D:13

Akron [Ohio], A:222

Akron [airship]

Airship (Between world wars), A:219 Aksum [East African kingdom], A:222 Africa (The influence of Christianity),

A:149 with map Eritrea, E:319; (History) E:320

Ethiopia (History), E:340

Aku-Aku book by Heyerdahll Heyerdahl, Thor, H:189

Akuffo, General Frederick William Kwasi (Ghanaian political leader)

Ghana (History), G:147

Al Aaraaf, Tameriane, and Minor Poems (poetry by Poe)

Poe, Edgar Allan (Early literary career), P:606

Al-Azhar University (Egypt), A:228 Cairo (Schools), C:17; (History) C:20 Fatimid dynasty, F:36

University (History), U:269

Al-Bashir, Omer Hassan Ahmed

[Sudanese political leader] Sudan (Sudan today), So:384

Al Basrah [Iraq], A:232

Al Fatah

Arafat, Yasir, A:495

Palestine Liberation Organization,

al-Khazari book by Halevil Halevi, Judah, H:21

al-Khowarizmi [Arab mathematician] Science (The Middle Ages), S:145

Al-Mansur, Abu Jafur |caliph of Abbasid empirel

Baghdad (History), B:26

Al Mawsil

See Mosul

Ala-ud-din Khalil (Indian ruler), A:227

Alabama [U.S.A.], A:222

See also list of Related Articles

Alabama Student, An Ibook by Osler Osler, Sir William, 0:510

Alabaster, A:223 with pictures

Aladdin (literary figure), A:224 Alamein, El

See El Alamein

Alamo [American history], A:224 with

Crocket, David, Cl:448

Alamo City

San Antonio, S:64

Alanbrooke, Lord (British military leaderl, A:225

Alarcón, Pedro Antonio de ISpanish author!, A:225

Alaric (king of the Visigoths), A:225 Goths, G:264

Alarm, Burglar See Burglar alarm

Alarm pheromone

Pheromone, P:361

Alaska [U.S.A.], A:225 with picture and map

Juneau, J:168

Alaska blackfish

Blackfish, B:379

Alaska Current

Pacific Ocean (Currents and tides), P:15

Alaska Highway, A:227 Alaska pipeline

See Trans-Alaska Pipeline

Alaskan malamute, A:227 Dog picture on, D:230

Alaungpaya (Burman leader) Burma (British conquest and rule), B:661

Rangoon, R:136

Alawi [Moroccan ruling family] Morocco (Corsairs and sharifs), M:615

Alay Imountains, Asial

Kyrgyzstan (Land and climate), K:349

Alba, Duke of

See Alva, Duke of

Albéniz, isaac (Spanish composer), A:233

Albacore

Tuna. T:438

Alban, Saint, A:228

Albania, A:228 with pictures and map See also list of Related Articles Cold War (Beginnings of the Cold

War), Ci:160

Europe (table), E:359

Flag picture on, F:207

World War II (table, The Axis),

W:381

Albanian language

Language (Indo-European), L:52

Albanus Lacus

See Lake Albano

Albany (Australia), A:231

Albany [U.S.A.], A:232

Albatross, A:232 with picture

Albee, Edward (American playwright), A:232

American literature (Drama), A:321 with portrait

Drama (Later United States drama), D:301

Theatre picture on, T:209

Albéniz, Issac |Spanish composeri,

Albers, losef [German-born painter], A:233

Albert, Lake

Baker, Sir Samuel,, B:33

See Lake Albert, L:20 Albert, Prince (husband of Queen Victorial, A:233

Edward VII, E:94

Victoria (Personal life), V:356

Albert Herring (work by Britten) Britten, Benjamin, B:582

Albert I, Prince

Monaco (History), M:540

Albert I (king of the Belgians), A:233 Belgium (The world wars), B:222

Albert II lking of Belgiumi, A:233 Belgium (Recent developments), B:223

Royal families (Belgium), R:419 **Albert Nyanza**

See Lake Albert

Albert of Hohenzollern (German crusaderl

Teutonic Knights, T:166

Alberta (Canada), A:233 Alberti, Leon Battista (Italian architect),

A:233

Architecture (Early Renaissance architecture). A:526

Italy (Architecture), 1:456 Painting (Early works), P:54

Perspective, P:302

Albertus Magnus, Saint, A:234 Arsenic, A:599 Albigenses [religious group], A:234 Innocent III (Crusades), 1:237 Albinism Evolution (Mutations), E:407 Heredity (The transmission of albinism), H:167 with diagram Albino, A:234 with picture Evolution (How mutations change a species), E:407 Eye (Parts of the eye), E:436 Horse, H:289 with picture Albion, A:234 Albright, Ivan [American painter], A:234 Albumen Bird (The reproductive system), B:353 Egg (The white), E:98; (Use of eggs) E:9/I Albumin, A:234 Blood (Transporting nutrients and wastes), **B:396** Liver (Other functions), L:335 Plasma (Functions of plasma), P:575 Protein (How the body uses proteins), Albuquerque [New Mexico], A:235 New Mexico picture on, N:118 Albuquerque, Afonso de [Portuguese military leader) Goa (History), G:220 Albury-Wodonga [Australia], A:235 Alcalá Zamora, Niceto (Spanish political leader Spain (The Spanish republic), So:186 Alcan Highway See Alaska Highway Alcatraz (island, U.S.A.), A:235 with picture San Francisco (City), S:65 Alcayaga, Lucita Godoy See Mistral, Gabriela Alcazar, A:235 Castle picture on, C:235 Santo Domingo, S:79 Spain (Architecture), So:175 with pic-Aicestis (play by Euripides) Euripides, E:354 Aichemist, The [play by Jonson] Jonson, Ben, J:140 Alchemy, A:235 Chemistry, C:368 with picture Gold, G:230 Magic (During the Middle Ages), M:46 Metallurgy (History), M:377 See also Geber Alcibiades, A:236 Alcibiades [play by Otway] Otway, Thomas, 0:521 Alcid See Auk Alcina (opera by Handel) Handel, George Frideric, H:41 Alcindor, Lew See Abdul-Jabbar, Kareem

Alcock and Brown, A:236 with picture

Alcock, Sir John William British avia-

tor See Alcock and Brown Alcohol [chemistry], A:236 Disinfectant, D:199 Drug (Depressants), D:313 Glycerol, G:216 See also Antifreeze; Solvent Alcoholic See Alcoholism Alcoholic beverage, A:237 See also list of Related Articles Drug abuse (Types of drug abuse). D:320; (Table) D:322 Drug (Depressants), D:313 Health (Health hazards), H:96 Intoxication, I:299 Mental illness, M:352 Nutrition (Nutrition guidelines), N:364 Prohibition, P:797 with picture Wine. W:273 Alcoholics Anonymous (A.A.), A:238 Drug abuse (Treatment of drug abuse), Alcoholism, A:239 with picture Alcoholics Anonymous, A:238 Delirium tremens. D:98 Disulfiram, D:204 Drug abuse (Treatment of drug abuse). Health (Tobacco, alcohol, and drug abuse), H:96 Alcoholometer Hydrometer, H:407 Alcor [star] Star (Binary stars), So:286 Ursa Major and Ursa Minor (Ursa Major), U:278 Alcott, Louisa May [American author], A:239 with portrait American literature (The sentimental novel), A:311 Alculn (English scholar), A:240 Alcyone [poetry by Lampman] Lampman, Archibald, L:38 Aldabra Islands Tortoise, T:307 Aldebaran (star) Star (table), So:284 Taurus, T:68 Aldehyde, A:240 Formaldehyde, F:362 Alden, John (American colonist), A:240 Alden, Priscilla Mullens (American colonist]. A:240 Alder, A:240 with picture Alderney See Channel Islands Aldershot Rushmoor, R:460 Aldington, Richard (British author), Aldiss, Brian W. [British writer], A:241 Aldosterone Adrenal gland, A:57 Hormone (Blood composition hormones), H:278 Hypertension (Causes), H:412

Steroid (The adrenal steroids), So:320

Aldridge, Ira [American actor], A:241

with portrait Aldrin, Edwin Eugene, Jr. (American astronauti, A:241 Astronaut picture on, A:682 Cape Canaveral, C:135 Exploration (table), E:429 Space exploration, So:128; (Landing on the moon) So:149 with picture Ale Alcoholic beverage (Other fermented beverages). A:238 Beer. B:193 England (Food and drink), E:267 Aleatory music, A:241 Cage, John, C:14 Classical music (The 1900's), Cl:62 Alecto [Roman mythology] Furies, F:492 with pictures Alegría, Ciro (Peruvian author) Latin-American literature (The mid-1900's), L:96 Aleichem, Sholom See Sholom Aleichem Aleixandre, Vicente (Spanish poet), A:241 Nobel Prizes (Literature), N:232 Alejandro Selkirk [Island] Juan Fernández, J:153 Aleph, The (work by Borges) Borges, lorge Luis, B:468 Aleppo [Syria], A:242 Aleutian Islands, A:242 with map Pacific Ocean (Coastline and Islands). P:14 Aleutian low Arctic (Climate), A:543 Aleuts (people), A:242 Alewife, A:242 with picture Fish picture on, F:166 Alexander [ship] First Fleet (The fleet), F:148 Phillip, Arthur (Later life), P:419 Alexander Archipelago Coast Ranges, C:136 Alexander I [czar of Russia], A:243 Aix-la-Chapelle, Congress of, A:220 Helsinki, H:147 Napoleon I (Disaster in Russia), N:22 Russia, R:487 Alexander I [king of Greece] Greece (World War I), G:343 Alexander I [king of Yugoslavial, A:243 Yugoslavia (A new nation), Y:474 Alexander II (czar of Russia), A:243 Anarchism, A:350 Russia, R:488 Alexander II [king of Scotland] Scotland, History of (The kingdom of Scotland), S:169 Alexander III (czar of Russia), A:243 Russia, R:488 Alexander III (king of Scotland) Scotland, History of (The War for Independence), S:169 Alexander III [pope], A:243

Pope (The election of a pope), P:675

Alexander the Great (HIs death), A:245

Alexander IV [king of Macedonia]

Alexander VI [pope], A:243

Borgia, B:468 Julius II, J:161 Line of Demarcation, L:291 Savonarola, Girolamo, S:115

Alexander Cave

Naracoorte Caves, N:24

Alexander Nevsky [film by Eisenstein]

Eisenstein, Sergei Mikhailovich, E:135
Alexander of Battenberg

See Battenberg

Alexander of Tunis, Earl (British military leader), A:243

Alexander Sarcophagus

Sculpture (Classical sculpture), **S:206**with picture

Alexander the Great (king of Macedonla), A:243 with picture and map Alexandria (History), A:245

Azerbaijan (History), A:897

Babylon (The fall of Babylon), B:12 Babylonia (The Semites), B:15

Dardanelles, D:33 Diogenes, D:183

Egypt, Ancient (History), E:129 with picture

Elephant, E:202

Exploration (The ancient Greeks), E:418; (table) E:419

Greece, Ancient (The Hellenistic Age)
with picture, G:354

Macedonia Ihistorical region), M:8

Olympias, 0:434

Persia, Ancient (Economy), P:294 Sculpture (Hellenistic sculpture), S:206 Tajikistan (History), T:14 Turkmenistan (History), T:468 Uzbekistan (History), U:294

War (War for wealth), W:32 Alexander, Lloyd (author)

Literature for children, L:321
"Alexander's Feast" [poem by Dryden]
Dryden, John, D:327

Alexandra [wife of] Edward VII, E:94

Nicholas II, N:198 with picture

Alexandra, Princess

Royal Family of the United Kingdom (The outer circle), R:425

Alexandria (Egypti, A:245

Alexander the Great (Conquest of Persia), A:244

Egypt (City life), E:108 with map Egypt (Muslim rule), E:115

Greek literature (The Hellenistic Age),
G:358

See also Lighthouse of Alexandria

Alexandria Quartet books by Durrell

Durrell, Lawrence, D:356

Alexandrian Age

Age (Historic ages), A:156

Alexandrian Library, A:246
Library (Egypt), L:230 with picture

Alexandrine [poetry]

Drama (Neoclassical playwrights),

Poetry (table), P:611; (Renaissance poetry) P:615

Alexandrite, A:246 Gem picture on, G:72 Alexeyev, Konstantin Sergeyevich See Stanislavski, Konstantin

Alexeyev, Rostislav [Soviet scientist]
Hydrofoil (Modern hydrofoil development). H-404

Alexia

Aphasia, A:471

Alexius Comnenus [Byzantine emperor]
Byzantine Empire (The decline and end
of the empire), B:702

Crusades (How the Crusades began),

Alfalfa, A:246 with pictures

Alfalfa weevil

Alfalfa (Diseases and pests), A:248 See also Weevil

Alfieri, Vittorio (Italian playwright), A:249

Alfilaria (plant)

Geranium, G:104

Alfonsín , Raúl (Argentine political leader)

Argentina (Argentina today), A:564

Alfonso VI (king of León and Castile) Madrid (History), M:38

Portugal (Founding the Portuguese nation), **P:705**

Alfonso X [king of Castile]

Cádiz, C:11

Spanish literature (Early medieval literature), So:193

Alfonso XII [king of Spain]

Spain (The reign of isabelia ii), So:185 Alfonso XIII (king of Spain), A:249

Spain, So:185

Alfred the Great king of Wessex, A:249 with portrait

Anglo-Saxons, A:371

England (The Anglo-Saxon period), E:274

Navy (Navies in the Middle Ages), N:59 Alfvén, Hannes Olof Gösta (Swedish physicist), A:249

Nobel Prize (Physics), N:226

Alfven wave

Alfvén, Hannes Olof Gösta, A:250

Algae, A:250 with pictures

Classification, Scientific (Groups in classification), Cl:67

Diatom, D:158

Earth (The earth's earliest history), E:26 Environmental pollution (Water pollution), E:303

Eutrophication (How eutrophication occurs), E:401

Great Barrier Reef (Physical features), G:312

Lichen, L:240 with pictures Seaweed, S:231 with picture

Sewage, **S:283**

Spore (Algae and fungal spores), So:238

Water plant, W:88

Water pollution (Effects), W:90 with diagram

Algal bloom

Algae, A:250

Eutrophication (How eutrophication occurs), E:401

Algebra, A:251 with pictures
See also list of Related Articles
Boolean algebra, B:462
Factor (Algebraic factors), F:4
Gauss, Carl Friedrich, G:63
Geometry (Analytic geometry), G:97
Mathematics, M:255; (Branches of mathematics) M:256; (Arab mathematics) M:257

Science (Mathematics and logic), S:140

Set theory (In algebra), S:276

Alger, Horatin [American author

Alger, Horatio [American author], A:260

Algeria, A:261 with pictures and map See also list of Related Articles Africa (Ways of life in northern Africa), A:125

Aviation (Aircraft nationality marks), A:881

Barbary States, **B:105** with map Bournedienne, Houari, **B:488** De Gaulle, Charles André Joseph

Marie (The Fifth Republic), D:87
Flag picture on, F:200

Foreign Legion, F:341

France (History), F:416

Guerrilla warfare (History), G:404

Algerian Revolution Algeria, A:266

Algiers [Aigeria], A:266

Africa (City life), A:126 with picture Algeria (City life), A:262 with picture

igin Algae (Brown algae), **A:250**

Kelp, K:214

Ocean (The importance of the ocean),

0:389

Seaweed (Uses), S:232

Algol [astronomy], A:267

Astronomy (map: The stars and constellations of the Northern Hemisphere), A:686

See also Binary star

Algoma, November [painting by Jackson]

Jackson, Alexander Young picture on,

Algonquian Indians

Indian wars (The French and Indian wars), I:174

Algorithm Imathematics), A:267
Algren, Neison (American author),
A:267

Alhambra, The [book by Irving] Irving, Washington (Years in Europe), E410

Alhambra [Spain], A:267 with picture Granada picture on, G:291 Islamic art (Other buildings), I:419 See also Moors Spain (Architecture), S:173 with pic-

Alharizi, Judah [Hebrew writer] Hebrew language and literature (Medieval works), H:129

Alhazen [Arab astronomer]
Colour (Early theories of colour vision),

Mathematics (Arab mathematics), M:257 Science (The Middle Ages), S:145 All [Muslim ruler] Muhammad (Early life), M:683 Muslims (The first caliphs), M:743 Shiites, S:359 Sunnis, So:426 Ali ibn Abi Talib (Shifte religious leader], A:268 All, Muhammad [American boxer], A:267 Alia, Ramiz [Albanian political leader] Albania (History), A:230 Alice Adams [work by Tarkington] Tarkington, Booth, T:45 Alice in Wonderland [book by Carroll] Carroll, Lewis, C:210 Fiction (Characters of fiction), F:69 Tenniel, Sir John, T:141 with picture Alice Sit-By-the-Fire (play by Barrie) Barrie, Sir James Matthew, B:119 Alice Springs [Australia], A:268 with picture Northern Territory (Government), Alicyclic Hydrocarbon, H:401 Alidade (instument) Surveying (Early tools), So:446 Alien and Sedition Acts [1798] United States, History of the, U:244 Alien Registration Act [1940] Smith Act. S:500 Allenation [psychology], A:268 Alimentary canal [anatomy], A:269 with picture See also list of Related Articles Digestive system, D:171; diagram on Human body (The digestive system), 14:354 Alimony Divorce (Divorce provisions), D:215 Aliphatic hydrocarbon Benzine, B:241 Hydrocarbon, H:400 Alisjahbana, Takdir See Takdir Alisiahbana Alitalia Airlines [airline] Airline (table), A:208 **Aliteracy** Reading (Causes of reading difficulties), R:157 Aljunied Syed Omar bin All (Arab businessmanl, A:269 Alkali, A:269 Base, B:123 First aid (Eye injury), F:146 Food additive, F:304 pH, P:356 Phenolphthalein, P:361 Soil (Chemical conditions), So:22 Turmeric, T:469 Alkali feldspar Feldspar, F:49 Igneous rock, 1:28 Alkali metal

Alkali, A:269

Caesium, C:14 Potassium, P:717 Sodium, So:15 Alkali metal halide Alkali, A:269 Alkali metal hydroxide Alkali, A:269 Alkaline cell Battery, B:155 Alkaline earth metal Calcium. C:23 Magnesium (Properties), M:51 Alkaloid, A:270 See also list of Related Articles Nicotine, N:201 Nightshade, N:218 Alkalosis, A:270 Alkane Hydrocarbon (Aliphatic hydrocarbons). H:400 Alkene Hydrocarbon (Aliphatic hydrocarbons), Retoo Alkmaar cheese market Netherlands picture on, N:97 Alkylate Petroleum (Combining processes). P:350 Alkylation Petroleum (Combining processes), P:350 Alkylbenzene sulphonate Detergent and soap (The development of detergents), D:139 Hydrocarbon (Aliphatic hydrocarbons), H:400 All About Eve [fi[m] Davis, Bette. D:46 All Blacks, A:270 Rugby football (History), R:448 All-England (Wimbledon) Championships Tennis table on, T:147 All England Women's Hockey Associ-Hockey (Hockey in the United Kingdom), H:239 All for Love [play by Dryden], D:327 Drama, D:295 All-girl rodeo Rodeo, R:330 All-or-nothing phenomenon Nervous system (The beginning of an impulse), N:84 with picture All Quiet on the Western Front book by Remarque] Remarque, Erich Maria, R:209 All Said and Done [book by Beauvoir] Beauvoir, Simone de, B:175 All Saints' Day, A:270 Halloween, H:24

"All Shook Up" [song]

All Souls College

All Souls' Day

Presley, Elvis, P:770

toms), H:24

Hawksmoor, Nicholas picture on, H:87

Halloween (Regional Halloween cus-

All the King's Men [work by Warren] Warren, Robert Penn, W:40 All the President's Men [film] Hoffman, Dustin, H:240 All the Proud Tribesmen book by Tennant1 Tennant, Kylie, T:140 All the Way Home [work by James Ageel Agee, James, A:158 All-Wood Perfection Art Doll Doil (The early 1900's), D:247 Allah (religion), A:270 God. G:224 Islam, I:413 Islamic art (Characteristics), 1:418 Ouran, 0:32 with pictures Religion, R:205 Allahabad (India), A:270 Uttar Pradesh (Places to visit), U:291 Allahabad Pioneer Kipling, Rudyard, K:286 Allegheny Mountains [U.S.A.], A:271 with map Pennsylvania (Land), P:263 **Allegheny Plateau** New York (Land), N:140 Pennsylvania (Land), P:263 Allegory, A:272 See also list of Related Articles Painting (Annibale Carracci and Michelangelo Caravaggio), P:62 Romance, R:348 Spenser, Edmund (The Faerie Queene), So:213 Allegory of the Marriage of Frederick Barbarossa and Beatrice of Burgundy (painting by Tiepolo) Tlepolo, Giovanni Battista, T:243 Allegro Barbaro (music by Bartók) Bartók, Béla, B:121 Allegro (musical by Hammerstein) Hammerstein, Oscar, II, H:32 Heredity (table), H:166: (Dominant and recessive genes) H:167 with diagram; (Gene pool and allele frequency) H:169 Allen, Barbara (folk heroine), A:272 Allen, Hervey (American author), A:272 Allen, Ralph [English developer] Bath (city), B:152 Allen, William Cardinal [English rellgious leaderl, A:272 Allen, Woody [American film maker], Film industry (Academy Award winners), F:96 Allenby, Lord [British military leader], World War I (The fighting ends), Allende Gossens, Salvador Ipresident of Chilel, A:273 Chile (Marxism and military rule), C:426 Allerdale (England), A:273 Allergen Allergy, A:273

Allergic bronchial asthma Asthma, A:678 Allergic digestive disturbance Alleray, A:273 Allergic headache Allergy, A:273 Allergic reaction Antibiotic, A:457 Allergic threshold

Allergy, A:273 Asthma (Causes), A:678

Disease (Immunological diseases).

Drug (Effect on the body), D:315 Hay fever, H:89

Hives, H:233

Allergy, A:274

Medicine (The specialities), M:311 Poisonous plant, P:621

Serum, S:272

Alley, Rewi [New Zealand poet], A:275 Alleyn, Edward (English actor), A:275 Dulwich, D:342

Alilance, A:275

See also list of Related Articles International relations (Freaties), 1:294 World War I, W:362

Allied Command Europe [military] North Atlantic Treaty Organization (Organization), N:258

Allies

World War I, W:362; (table) W:363 World War II, W:378; (table) W:381

Alligator, A:275 with pictures Crocodile, Cl:448

Reptile (Crocodilians), R:231

Alligator gar Gar, G:32

Alliteration, A:276 Poetry (table), P:611

Shakespeare, William (Rhetoric), \$:323

Allocative efficiency Industry (Performance), 1:226

Allograft

Skin grafting, S:473

Tissue transplant (Types of transplants), T:263

Allopathy, A:276

Allopolyploidy, A:277

Evolution (Evolution of new species), E:408

Allosaurus, A:277

Dinosaur (Therapods), D:177 with pictures; picture on D:175

Allotments [land], A:277

Allotrope [chemistry] Allotropy, A:277

Manganese (Properties), M:153

Phosphorus, P:432 Selenium, S:245

Sulphur (Forms), So:401

Allotropy ichemistryl, A:277

Alloy, A:277 with pictures

Aluminium (Properties of aluminium alloys), A:290

Assaying, A:671 Bismuth, B:371 Boron, **B:471** Cobalt (Uses), Ci:135 Gold (Properties of gold), G:230 iron and steel, 1:386

Magnetism (Permanent magnets),

M:55

Plastics (The chemistry of plastics), P:570

Zinc. Z:498

Alloy steel

Iron and steel, 1:387

Allport, Gordon W. [American psychologistl. A:279

All's Well That Ends Well play by Shakespeare]

Shakespeare, William, S:318

Allspice, A:279

Pimento, P:502 with picture

Alluvial deposit

Gold (Placer deposits), G:231

Alluvial diamond

Diamonds (Where natural diamonds are found), D:154

Alluvial fan, A:279

River (The mouth of a river), R:291

Alluvial gold

Australia, History of (Mining), A:807 See also Alluvial deposit

Alluviai plain

Bangladesh (The land), B:86 with pictures

Plain, P:531

Alluvium, A:279

Bihar (Rivers), B:289

Gujarat (Land features), G:422

Alma-Ata See Almaty

Alma Venusi book by O'Dowdl

Australia, Literature of (Other poetry), A:831

Almagest (book by Ptolemy)

Astronomy (The Ptolemaic system), A:697

Mathematics (The Greeks and Romans), M:257

Ptolemy, P:833

Science (Ancient Greece), \$:144

Almagro, Diego de

Chile (Spanish conquest), C:424

Pizarro, Francisco, P:530 Almanac, A:279 with picture

Banneker, Benjamin, B:97

Navigation (Celestial navigation), N:52 Star (Measuring direction and posi-

tion), So:283

Almandine Garnet, G:45

Almaty [Kazakhstan], A:280 Kazakhstan, K:204

Almond, A:280

Nut picture on, N:360

Almoravid Empire Berbers, B:241

Almoravids [people] Ghana Empire, G:149

Almost at the End [poetry by Yevtu-

Yevtushenko, Yevgeny, Y:452

Almost Human book by Yerkesl Yerkes, Robert Mearns, Y:452

Almsgiving

Islam (Customs and ceremonies), I:415 Almshouse, A:280 with picture Bedfordshire (Customs and recreation), B:181

Alnico

Alloy (Other alloys), A:278

Alnwick (England), A:280 Aloe, A:281 with picture

Alone (book by Byrd)

Byrd, Richard Evelyn, B:694

Alopecia

Baldness, B:39 with diagram

Alor Setar [Malaysia]

Kedah (Places to visit), K:209

ALP

See Australian Labor Party Alpaca, A:281 with picture See also Guanaco; Llama; Vicuña Mammal picture on, M:128

Alpenhorn, A:281 with picture

Alpha and Omega, A:282

Alpha [letter], A:1 with picture Alphabet (The Greeks), A:282 with pic-

Alpha cells

Pancreas, P:127

Alpha Centauri [astronomy], A:282

Alpha decay (physics)

Transmutation of elements, T:343

Alpha-fetoprotein test Genetic counselling, G:79

Alpha Lyrae [star] Vega, V:320

Alpha Orionis

Betelgeuse, B:263

Alpha particle, A:282

Gamma ray, G:26 Hellum, H:143

Nuclear energy (Radioactive decay),

N:321

Nuclear physics, N:332 Radioactivity, R:87 U-235, U:2

Alpha radiation

Radioactivity, R:88 Alpha rav

Wilson cloud chamber, W:263

Alpha Scorpii Antares, A:446

Alpha wave

Electroencephalograph, E:175 Transcendental meditation, T:338

Alphabet, A:282

Braille, B:509 with diagram Education (Sumerian and Egyptian education), E:89

Flag pictures on, F:214

Greek language (Alphabet), G:356 Handwriting (The first writing system),

Hebrew language and literature pic-

ture on, H:130 Initial teaching alphabet, I:234

Latin language, L:97

Morse code pictures on, M:620

Phoenicia (Language), P:428 Phonetics, P:430

Rune, R:458 with picture Russian language, R:494

See Codes and ciphers

Alphabetical Arrangement

Encyclopedia (Arrangement of content). E:236

Alphaville [film]

Godard, Jean-Luc, G:225

Alphonsus Liguori, Saint [Italian religious teacher], A:284

Alphorn

See Alpenhorn

Alpine Forelands Austria, A:862

Alpine goat

Goat (Domestic goats), G:221

Alpine ibex ibex, i:2

Alpine marmot Marmot, M:216

Alpine Mountain System

Europe (The Alpine Mountain System), E:371 with picture

Alpine plant Leaf (Light), L:130

Alpine pond

Pond (Kinds of ponds), P:667
Alpine skiing

Olympic Games table on, 0:436 Skiing, S:462

Alpine Slope Italy, 1:458 Alpine tundra

Flower (Flowers of the alpine tundras), F:257 with pictures

Tundra, T:439

Alpinism

See Mountain climbing

Alps Imountains, Europel, A:284 with pictures and map

See also list of Related Articles

Austria (Land and climate), A:862 with picture; Tourism A:864 with picture

Europe (The Alpine Mountain System), E:371 with picture

Germany (The Bavarian Alps), G:127 with picture

Italy (The Alpine Slope), 1:458 with picture

Saint Bernard Passes, S:30

Switzerland (The Swiss Alps), So:496; picture on So:499

Тугоl, **Т:491** with map

ALS

See Amyotrophic lateral sclerosis

Alsace-Lorraine [France], A:287 with picture

France picture on, F:406 Ruhr (History), R:453

Alsatian

German shepherd dog, G:111

Alsted, Johann Heinrich (German theologian)

Encyclopedia (History), E:240 Altai Mountains, A:288

Altaic language

Language (Other language families),

Altar, A:288 with picture Sculpture (Roman sculpture), S:208

Altar frontal

Sculpture (Early medieval sculpture), S:208 with picture

Altar of Peace

Sculpture (Roman sculpture), S:208

Alternating current (AC)

Converter, Ci:318 Electric circuit, E:143

Electric current, E:143
Electric generator, E:145

Electric motor, E:155

Electric power (Transmission), E:160

Electricity, E:168

Railway, Model (Locomotive), R:114

Tesla, Nikola, **T:160 Alternating voltage**

Electric generator, E:146

Alternation of generations, A:288

Botany (table), B:481 Fern (Life cycle of a fern), F:55

Hornwort, H:283
Moss (How mosses live), M:637

Plant (Sexual reproduction), P:556 Spore (Plant spores), S:236

Alternative Service Book

Prayer Book, P:741

Alternative vote system

Preferential voting, P:741

Aiternator

See Electric generator

Althing (government)

Iceland (Government), I:20; (Early days)
I:23; (Great disasters) I:23

Parliament (Parliaments in other countries), P:192

Althusius, Johannes [German political scientist]

Political science (Secularism), P:654
Altimeter [instrument], A:289 with pic-

Altimeter linstrumenti, A:289 with pic

Altitude, A:289

Air (Weight and pressure), A:184

Altimeter, A:289 Barometer (Uses), B:116

Mountain, M:665

Navigation, N:51

fale de la companione

Altitude (geometry)

Triangle (Properties and relationships of triangles), T:397

Altitude record

Aeroplane (table), A:85

Balloon (Manned exploration of the stratosphere), **B:64** with pictures Glider (table), **G:209**

Altitude sickness, A:289

Ale II

Alton (England)

Staffordshire (Places to visit), So:261

Alton Locke (book by Kingsley) Kingsley, Charles, K:282

Altostratus

Cloud (Middle clouds), Cl:109

Altricial bird

Bird (Caring for the young), B:348

Alum, A:289

Baking powder, B:34

Alumina, A:289

Aluminium alloy

Alloy (Alloys for strength and lightness), A:278

Aluminium, A:290 with pictures and map

See also list of Related Articles
Electrolysis (Uses of electrolysis), E:175
House (Modern materials), H:323

Aluminium bronze

Bronze (Silicon and aluminium bronze), **B:588**

Aluminium hydroxide

Bauxite, B:159
Aluminium oxide

luminium oxide

Alumina, A:289 Bauxite, B:159

Gem (Imitation and synthetic gems), G:73

Aluminium sulphate

Water (Purifying and heating water), W:78

Alva, Duke of (Spanish general), A:296 Alvarado, Pedro de (Spanish con-

queror], A:296

Guatemala (Colonial period), G:400

Alvarez, Luis Walter [American physicist], A:296

Alveoli [anatomy]

Blood (Carrying oxygen and carbon dioxide), **B:395**

Emphysema, E:231 Haemoglobin, H:5

Haemoglobin, H:5 Human body (The air passages), H:355

Lung (Parts of the lungs), L415 with diagram

Respiration (External respiration),
R:239

Alveolus (teeth)

Teeth (Periodontal ligament), T:92

Aivin (submersible)
Marine biology (Biological oceanogra-

phers), M:210 Ocean (Submersibles), O:399 with pic-

ture
Pacific Ocean (Exploration), P:15

Always Room for One More (book by

Leodhasl Hogrogian, Nonny, **H:242**

Always the Young Strangers [book by Sandburg]

Sandburg, Carl, S:71

Always You imusical by Hammerstein Hammerstein, Oscar, II, H:32

Alyn and Deeside [Wales], A:296

Alyssum, Sweet
See Sweet alyssum

Alzheimer's disease, A:296

Senility, S:254 A.M., A:296

Hour, H:321

Am [symbol]

Americium, A:331

Amadeo, Giovanni (Italian sculptor) Sculpture (Early Renaissance), S:211

Amadeus [film]

Film industry (Academy Awards), F:96; (Recent developments) F:107

Tharp, Twyla, T:187

Amadís of Gaul (book), A:296 Amado, Jorge (Brazilian novelist), A:296 Brazil (The arts), B:536 Latin American literature (The early 1900's), L:96 Amalfi (Italy), A:297

Amalgam (alloy), A:297
Metallurgy (Amalgamation), M:376
Teeth (Filling a cavity), T:94 with picture

Amalgamation Metallurgy, M:376

Amanita

Mushroom (Poisonous mushrooms), M:724

Amanites (religious group), A:297
Brethren, B:553
Amanullah Khan (amir of Afghan)

Amanuilah Khan lemir of Afghanistanl Afghanistan (Independence), A:115 Amaranth (plant), A:297

Amarna Revolution

Egypt, Ancient (The New Kingdom),

Nefertiti, N:67 Amaryllis, A:297

Amaterasu-Omikami [Shinto goddess] Religion (Shinto), R:204

Amateur Boxing Association (ABA)

Boxing (Boxing in Britain and Ireland),

B:417

Amateur Boxing Union of Australia Boxing (Organizations), B:496

Amateur Cracksman, The Ibook by Hornungi

Hornung, E. W., H:283

Amateur Emigrant (book by Stevenson) Stevenson, Robert Louis (Stevenson's writings), So:322

Amateur radio
See Radio, Amateur

Amati family (italian violin makers), A:298

Amauta (teacher)

Inca (Communication and learning),

Amazing Bushmen, The (book by Battiss)

Battiss, Walter, B:157
Amazon [Greek mythology]

See Amazons
Amazon ant

Ant (Slave makers), A:433

Amazon dolphin River dolphin, R:292

Amazon parrot

Parrot (Kinds of parrots), P:200 with picture

Amazon rainforest, A:298 with pictures and map

Amazon Region

Brazil (Land and climate), B:537

Amazon River, A:299 with picture and map Brazil picture on, B:537

Orellana, Francisco de, **0:493** Purus River, **P:867** River (table), **R:290**

South America, So:94; (Animals) So:97; picture on So:88 **Amazon River Basin**

Latin America (Border disputes), L-92
Amazon stone

Feldspar, F:49

Amazons [Greek mythology], A:301

Ambassador, The [book by West] West, Morris, W:155

Ambassador, A:301

See also list of Related Articles Address, Forms of, A:41 International relations (Diplomacy), 1:294

Ambassadors, The (book by James) James, Henry, J:22

Ambedkar, Bhimrao Ramji IIndian social reformeri, A:301

India, Literature of (Dalit literature), fi129

Amber, A:301 with picture Electricity, E:165

Fossil (How fossils form), F:371 Gem picture on, G:72

Amber Valley [England], A:302

Ambergris, A:302 Sperm whale, So:213

Whale (American whaling), W:212

Amberjack, A:302 with picture Ambient diving

Diving, Underwater (Ambient diving), D:207

Ambivalence, A:302

Ambler, Eric (English author), A:302 Ambleside (England)

Cumbria (Places to visit), Cl:496

Ambiyopia

Blindness (Causes of blindness), B:388
Ambon (city, Indonesia)

Indonesia (The massacre of Ambon), I:197

Ambon (island, Indonesia) Indonesia (table), Isl87 with map

Ambrose, Saint, A:302
Ambrosia (mythology), A:302

Ambulance, A:302 with pictures
Ambulatory

Architecture (table: Architectural terms), A:514

Cathedral (The Latin cross ground plan), C:262 with diagram

Amenhotep IV [king of ancient Egypt]
Egypt, Ancient (The New Kingdom),
E-178

Ament See Catkin

America, A:303

Columbus, Christopher (Third voyage westward), Ci:211

Exploration (The great age of European discovery), E-420; (Filling in the globe) E-423

See also Central America; Latin America; North America; South America; United States; list of Related Articles

America boat

America's Cup, A:331

Sailing (America's Cup), S:26

America [ship]

Aircraft carrier (The modern carrier

fleet), A:206

America (work by Blake) Blake, William, B:383

American alligator Alligator, A:275

American aloe

Aloe, A:281 Century plant, C:325

American Anti-Slavery Society

Abolition movement, A:13
American badger

Badger, B:23 with picture

American bison Buffalo, B:623

American bittersweet Bittersweet, B:372 with picture

American buffalo Buffalo, B:623

American Buffalo [play by Mamet]
American literature (Drama), A:321
Mamet, David, M:124

American century plant See Century plant

American Characteristics [work by Wilder]

Wilder, Thornton Niven, W:250

American Civil War, A:304 Sculpture (American sculpture), S:214

American cocker Cocker spaniel, Ch141 American cocker (Dog)

picture on, D:227

American cockroach

Cockroach, Ci:142

American College Dictionary (book) Barnhart, Clarence Lewis, B:114

American Colonization Society
Abolition movement, A:13

American Copper
Butterfly picture on

Butterfly picture on, B:682

American copperhead Copperhead, Cl:344 with picture

American Democrat, The Ibook by Cooper!

Cooper, james Fenimore, Ci:336

American Diplomacy, 1900-1950

[book by Kennan]

Kennan, George Frost, K:215

American Dream, An (book by Mailer) Mailer, Norman, M:69

American eel Eel, E:95

American-Egyptian cotton Cotton (Kinds of cotton), Cl:382

American Exodus: A Record of Human Erosion, An [book by Lange]

Lange, Dorothea, L:48

American Federation of Labor (AFL)
United States, History of the (Early reform efforts), U:254

American Federation of Labor-Congress of Industrial Organizations (AFL-CIO)

United States, History of the (Early reform efforts), U:254

American football
See Football, American

American foxhound

Dog picture on. D:228 American furniture

Furniture, F:503 with picture

American gauge

Wire (Sizes of wire), W:277

American Gothic [painting by Wood] Wood, Grant, W:300

American government

See United States, Government of the

American history

See United States, History of the

American hornbeam

ironwood, I:403

American Hunger (book by Wright) Wright, Richard, W:419

American in Paris, An [film]

Dancing (Dancing since 1900), D:28 Kelly, Gene, K:212

American in Paris, An imusical by Gershwin]

Gershwin, George, G:142

American Indian

See Indian, American: Races, Human

American Indian languages See Indian, American

American Indian Movement (AIM) Indian, American (The push for Indian

rights), I:166 American kestrel

Bird picture on, B:329

American Language, The book by Menckeni

American literature (Satirists), A:318

American Law Review [magazine]

Holmes, Oliver Wendell, H:248 American literature, A:310

See also list of Related Articles

American mastodon Mastodon, M:251 with picture

American mistletoe Mistletoe, M:515

American National Academy of Recording Arts and Sciences

Recording industry (Recording industry awards), R:168

American opera

Opera (American opera), 0:466

American pine marten Marten, M:230

American Railway Union (A.R.U.) Debs, Eugene Victor, D:63

American Red Cross Barton, Clara, B:122

Red Cross (Red Cross Societies), R:172

American Revolution, A:323

See also list of Related Articles Bunker Hill, Battle of, B:645

American robin

Bird picture on, B:328, B:348

American Rocket Society

Space exploration (The first space rockets), So:140

American saddle horse Horse picture on, H:287

American Samoa, A:329 with map

American Sign Language (ASL) Deafness (Special aids and communi-

cation techniques), D:57 Sign language, S:414

American Songbag, The Iwork by

Sandburgl

Sandburg, Carl (His poetry), S:72

American Staffordshire terrier,

Dog, picture on, D:233

American States During and After the Revolution, The [book by Ne-

Nevins, Allan, N:106

American sycamore Plane tree, P:532

American System

United States, History of the (Nationalism and the economy), U:245

American Telephone and Telegraph Company (AT&T), A:330

American Tragedy, An Ibook by Dreiserl

Dreiser, Theodore, D:306 Naturalism (Naturalism in fiction), N:48

American University, The book by Barzun

Barzun, Jacques, B:123 American University (Cairo)

Cairo (Schools), C:17

American water spaniel, A:331 Dog (table), D:225

American white pelican Pelican, P:247 with picture

American wigeon Bird picture on, B:328

American yew Yew, Y:452

Americanism Leo XIII, L:176

Americanoids (people)

Arctic (Arctic peoples), A:543 America's Cup, A:331

Bond, Alan, B:445 Sailing (Yacht racing) with picture. 5:26

Western Australia, W:175

Americium (element), A:331

Amerigo Vespucci

See Vespucci, Amerigo

Amerika book by Kafka

Kafka, Franz, K:179

Amerindians

Antigua and Barbuda (History), A:461 West Indies (People), American, W:164; (History) W:171

See also Indian, American

Deafness (Special aids and communication techniques), D:57

Amethyst, A:331

Gem picture on, G:72

Amharic [language] Ethiopia (People), E:338

Amiens [France], A:331 with picture

Amiens Cathedral [France]

Amiens picture on A:332 Architecture picture on, A:525

Gothic art (High Gothic architecture), G:263 with picture

Amiens, Treaty of [1802]

Napoleon I (Peacemaking), N:20 Amin Dada, Idi [ruler of Uganda], A:332 Tanzania (The united republic), T:36 Uganda (History), U:3

Amine, A:332

Amino acid, A:332

Acid (Organic acids), A:24 Brain (Genetic disorders), B:517 Cell (Producing proteins), C:299

Food (Building and repairing tissues).

Food supply (Protein), F:310

Heredity (Genes and proteins), H:170 Hormone (How hormones work), 14:279

Life (Protein), L:249

Maize (Food for people), M:71 Metabolism (Catabolism), M:374 Nutrition (Proteins), N:363

Phenylketonuria (PKU), P:361

Pork, P:691

Protein (The structure of proteins), P:813 with pictures

Aminophylline

Asthma (Treatment), A:678

Aminta (poem by Tasso) Tasso, Torquato, T:65

Aminuddin Bald [Malayan educator], A:332

Amis, Kingsley (English novelist), A:332 Amish [religious group], A:333 with pic-

Clothing (Communication), Ci:90 Hat (Why people wear hats), H:76

Amlak, Yekuno

Ethiopia (The Zagwé dynasty), E:340

Amman [Jordan], A:333

Jordan, J:140 with picture Ammeter [instrument], A:333 with pic-

Electric measurement, E:153 Galvanometer, G:18

Ammocoete

Lamprey (Habits) with picture, L:38

Ammonia, A:333

See also list of Related Articles Battery (Carbon-zinc cells), 8:154

Bosch, Carl, B:472

Hydrogen (Hydrogen compounds), 10405

Nitrogen (Nitrogen cycle) diagram, N:222

Nitrogen (Production of ammonia), N:222

Petrochemicals, P:328

Ammonia dynamite

Dynamite (Kinds of dynamite), D:365

Ammonia gelatin Dynamite (Kinds of dynamite), D:365

Ammonia maser

Maser, M:241

Ammonite Earth (The Mesozoic Era), E:27

Prehistoric animal (Invertebrates), P:746 with picture

Ammonium chloride

Battery (Carbon-zinc cells), B:154

Ammonium hydroxide

Ammonia (Properties of ammonia), A:333

Hydroxide, H:409

Ammonium ion Battery (Carbon-zinc cells), B:154 Ammonium nitrate Nitrate, N:221 Ammons, A. R. [American poet] American literature (Poetry), A:319 Ammunition, A:334 with diagrams Cartridge, C:221 Explosive, E:430 Guided missile, G:406 with pictures and diagrams Handgun (Types of handguns), H:42

Magazine, M:41 Ordnance, 0:491 Torpedo, T:303 with diagram Amnesia, A:337

Memory, M:343 Mental illness (Dissociative disorders), M:350

Amnesty, A:337 Amnesty International, A:337 Nobel Prize (Peace), N:234 Amniocentesis, A:337 Down's syndrome, D:277

Genetic counselling, G:79 Reproduction, Human (Checking the fetus). R:229

Amniotic fluid Genetic counselling, G:79 Amniotic sac

Baby (Before birth), B:4 with pictures Amoeba, A:338 with picture Life picture on, L:245

Protozoan (Characteristics of protozoans), P:818

Amoebic colitis Colitis, Cl:163 Amoebic dysentery

Amoeba, A:338 Dysentery (Causes and symptoms), D:366

Parasite (Parasites that feed on people and animals), P:178 Amon (Egyptian godi, A:338

Akhenaton, A:221 Egypt, Ancient (Religion), E:122 Mythology (Other Egyptian divinities), M:755

Amon-Re [Egyptian god] Egypt, Ancient (Religion), E:122; (The New Kingdom) E:128; picture on

Mythology (Other Egyptian deities), M:755 with picture Thebes, T:210

Among the Millet, and Other Poems [poetry by Lampman]

Lampman, Archibald, L:38 Amorsolo, Fernando [Filipino artist], A:338 with picture

Amos, Book of Old Testamenti, A:338 **Amosite** Asbestos (Types of asbestos), A:617

Amoxycillin Penicillin (Forms of penicillin), P:258

Amoy See Xiamen

Ampere [unit of measure], A:339 Ammeter, A:333

Ampere, Andre Marie, E:339 Electric circuit, E:141 Electric current (Conductors and insulators), E:143 Electric measurement, E:152 Electricity (Electric circuits), E:169 Electrolysis (Laws of electrolysis),

Ampère, André Marie [French physicist], A:339

Electricity (Electromagnetism), E:172 Electromagnetism, E:177 Physics (Developments in the 1800's), P:476

Amphetamine, A:339

Brain (How drugs affect brain chemistry), B:517

Drug abuse (Commonly abused drugs), D:320

Drug (Stimulants), D:313; (The drug revolution) D:320; (Table) D:322 Methamphetamine, M:382

Stimulant, S:325

Amphibian laeroplanel

Aeroplane picture on, A:81 Aeroplane (Seaplanes), A:89 with pic-

Amphibian [animal], A:339 with pic-Animal (Kinds of animals), A:380; (A table of animal intelligence) A:401

Ear (The ears of animals) pictures on, E:13

Earth (The Palaeozoic Era), E:27 Evolution (Geographic distribution of species), E:410

Fish (The first fish), F:178 Frog, F:464

Heart (Amphibians and reptiles), H:114 Prehistoric animal (The move onto land). P:744 with table

Reproduction, R:224 Skin (Animal skin), S:471

Toad, T:268

"Amphibious Digger" (self-propelled vehicle)

Evans, Oliver, E:402 with picture Amphibious ship, A:342 with picture Navy (Ships and alreraft), N:59

Warship (Amphibious warfare ships), Wid3

Amphibious warfare, A:343

Warship (Amphibious warfare ships),

Amphibole, A:343

Asbestos (Uses of asbestos), A:618 Hornblende, H:281

Amphictyonic League lancient Greecel Peace (Ancient Greece and Rome). F:224

Amphioxus, A:343 **Amphitheatre**

Poseidon, P:709

Drama picture on, D:286

Rome, Ancient (Recreation), R:374

Amphitrite [Greek mythology] Neptune, N:78 Nereids, N:79

Amphitruo [play by Plautus]

Plautus, P:592

Amphitryon 38 [play by Giraudoux] Giraudoux, Jean, G:166

Ampicillin

Antibiotic (table), A:456 Penicillin (Forms of penicillin), P:258

Amplification

Electronics (Solid-state components), E:189

Electronics (Terms used in electronics), E:185

Amplifler

High-fidelity system, H:197 Radio (Amplifiers), R:77 Record player (The amplifier), R:164 Sound (Using sound), So:53

Tape recorder (Erasing and recording), T:38

Television (Amplifiers and separators). T:132

Amplifying transistor circuit

Electronics (Solid-state components) picture on, E:188

Amplitude

Electronics (Terms used in electronics), E:185

Frequency modulation, F:455 Gas (Exploring for gas), G:51 Radio (Kinds of broadcast waves), R:78 Sound (Intensity and loudness) dia-

gram, So:49 Vibration, V:354

Waves (Characteristics of waves),

W:104

Amplitude modulation Aerial, A:69

Frequency band, F:453 Frequency modulation, F:455

Radio (Kinds of broadcast waves), R:75 Television (Broadcasting), T:131

Ampulla

Crown jeweis, Ch461 with picture Ear (The semicircular canals), E:8

Ampullae of Lorenzini Shark (Senses), S:333

Amputation, A:343

Artificial limbs (Preparation of an artificial limb), A:611

Surgery (Some common surgical operations), So:438

Amr ibn al-As [Arab conqueror], A:344 Amritsar [india], A:344 with picture India, History of (The Gandhi premier-

ship), I:119 with picture Punjab (Places to visit), P:860 with picture

Sikhism, S:416 with picture

Amritsar Massacre

Gandhi, Mohandas Karamchand (Gandhi's independence campaign), G:29

India (Gandhi and the Satyagraha campaign), 1:116 Jallianwala Bagh massacre,, J:16

Amsterdam (Netherlands), A:344 with picture

Netherlands, N:88, N:89, N:91 with picfures

Amsterdam Stock Exchange

Blood (Blood tests), B:399; (Anaemia)

Abnormal psychology (Theories of ab-Architecture picture on, A:533 B:400 normal psychology), A:12 Amu Darya [river] Cell (Metabolic diseases), C:302 Turkmenistan (Land and climate), Leukaemia, L:195 Homer, H:254 Nutrition (Mineral deficiencies), N:368 Analytic geometry T:467 Geometry (Analytic geometry), G:97 Amulet, A:345 Sickle cell disease, \$:410 Mathematics (Branches of mathemat-Magic (Elements of magic), M:45 Thalassaemia, T:185 **Amundsen-South Station** Anaemic anoxia (disorder) ics). M:256 Antarctica picture on, A:446 Anoxia, A:426 Analytical balance Balance, B:34 with picture Amundsen, Roald [Norwegian ex-Anaerobe plorer), A:345 with portrait and Actinomycosis, A:27 Analytical chemistry, A:349 Bacteria (The life of bacteria), B:21 Analytical engine Antarctica (Race to the pole), A:442 Environmental pollution (Water pollu-Computer (Early punched-card comtion), E:303 with pictures puting devices), Cl:264 Arctic (Arctic exploration), A:544 Fuel (Gas fueis), F:478 Analytical Mechanics (book by La-Arctic Ocean (Exploration of the Arctic Anaerobic bacteria grange Ocean), A:548 See Anaerobe Lagrange, Joseph Louis, L:16 Northwest Passage, N:290 Anaesthesia [medicine], A:348 Analytical psychotherapy South Pole, So:118 Acupuncture, A:28 Jung, Carl Gustav, J:168 Amur River (Siberia), A:346 Barbiturate (Medical uses), B:107 Psychotherapy (Analytical psychother Okhotsk, Sea of, 0:423 Cocaine, Ci:139 apy), P:831 Amusement park Dentistry (Modern dentistry), D:121 Anand, Mulk Raj [Indian writer] Denmark (Recreation), D:112 with pic-India, Literature of (Progressive litera-Drug (Anaesthetics), D:313; (The drug ture revolution) D:318 ture). I:129 Ferris wheel, F:58 with picture Halothane, H:26 Ananda Mahidol (king of Thailand) Merry-go-round, M:365 with picture Hypnotism (Uses of hypnotism), H:415; Thailand (World War I and World War Amusements picture on H:413 II). T:184 See Recreation Lignocaine, L:274 Anaphase [biology] Amusing Questions [book] Long, Crawford Williamson, L:377 Cell (Mitosis), C:296 Riddle, R:272 Medicine (The specialities), M:311; Anaphylaxis, A:350 Amylase [enzyme] (Discovery of the first anases-Anarchism, A:350 Digestive system (in the small intesthetic) M:316 with picture Civil disobedience (is civil disobeditine), D:172 Menthol. M:357 ence ever justified?). Ch40 Malt, M:120 Morton, William Thomas Green, Goldman, Emma, G:242 Amylopectin M:622 Government (The scope of govern-Maize (Waxy maize), M:73 Nitrous oxide, N:223 ment). G:268 Amyotrophic lateral scierosis (ALS), Surgery (Anaesthesia), So:436 "Anarchy, The" [English history] A:346 Anaesthetics [medicine], A:348 Stephen, So:316 An American Dilemma: The Negro Anahelm [U.S.A.], A:349 Anasazi [tribe] Problem and Modern Democ-Anal clasper Indian, American (Indians of the racy (book by Myrdal) Butterfly (The larva), B:688 Southwest), 1:159; picture on 1:150 Myrdal, Gunnar, M:749 **Anal proleg** Anathema [religion] An inspector Calls (book by Priestley) Butterfly (The larva), B:688 Eastern Orthodox Churches (History), Priestley, John Boynton, P:776 Analects [book] F:46 An Taisce Confucius, Ci:278 Anatolia (region, Turkey) National Trusts, N:44 Analgesic, A:349 Asia Minor, A:664 Anabaptists ireligious group), A:347 See also list of Related Articles Ottoman Empire (The beginning of the Hutterites, H:391 Drug, D:313 empire). O:521 Mennonites, M:348 Drug abuse (Abuse of legal drugs), Turkey, T:454 with picture Protestantism (The radical reform D:320 Anatolian shepherd, A:350 movements), P:816 Narcotic, N:25 Dog (table), D:225 Reformation (Zwingli and the Anabap-Opiate, 0:476 Anatomical Procedures (book by tists), R:182 Analog circuit Galeni Anabase [poem by Perse] Electronics (How electronic circuits Galen, G:11 Perse, Saint-John, P:291 process information), E:191 Anatomical Study of the Motion of Anabasis [book by Xenophon] Analog computer, A:349 the Heart and of the Blood in Xenophon, X:433 **Analogous structures** Animals, An (book by Harvey) Anableps, A:347 Homologous structures, H:257 Harvey, William, H:72 Fish picture on, F:152 Analogue display Anatomy, A:350 Anabolic steroid Watch (Kinds of watches), W:66 See also list of Related Articles Steroid (Androgen), So:320 Analogue recording Biology, B:304 Testosterone, T:165 Record player, R:163 Bird (The bodies of birds), B:349 with Anabolism Analogue transmission Metabolism, M:373 Telecommunication, T:101 Fish (The bodies of fish), F:167 with Anaconda, A:347 with picture **Analysis** pictures Anacreon [Greek lyric poet], A:347 Debate (Analysis), D:61 Human body diagrams on, H:352 Anacrusis Anaiysis of Beauty, The Ibook by Ho-Physiology, P:481 Poetry (table), P:611 garth) Science (The life sciences), S:140 Anaemia, A:347 Hogarth, William, H:241 Anatomy Lesson, The Ibook by Rothi

Analyst [psychology]

Roth, Philip, R:407

Anatomy Lesson of Professor Tulo

[painting by Rembrandt] Rembrandt (Early Amsterdam years: 1632-1640), R:210

Anatosaurus

Dinosaur (Ornithischians), D:180

Anawrahta [Burmese ruler]

Burma (Early days), B:660

Anaxagoras [Greek philosopher], A:351

Moon (table), M:595

Pre-Socratic philosophy (The teachings of Parmenides), P:770

Sun (Early sun science), So:420

Anaximander [Greek philosopher], A:351

Geology (History), G:91

Pre-Socratic philosophy (The first pre-Socratics), P:770

Anaximenes (Greek philosopher), A:351 Pre-Socratic philosophy (The first pre-Socratics), P:770

Ancestor worship, A:351

Ancestors of Christ painting by Michelangelo]

Michelangelo, M:436

Ancestry

Genealogy, G:75

Prehistoric people (Prehuman ancestors), P:751

Races, Human, R:42

Anchor, A:351 with picture

Anchorage (U.S.A.I. A:352

Anchors Aweigh [film]

Kelly, Gene, K:212

Anchovy, A:352

Ancient civilization, A:352

Aegean civilization, A:67 with map Agriculture, A:171

Aksum, A:222 with map

Alchemy, A:235

Army (Ancient armies), A:592

Asia, A:657 with map

Assyria, A:674 with pictures and map

Athens (Earliest times), A:707

Babylonia, **B:14** with pictures and map

Calendar (History), C:35

Carthage, C:213 with pictures and map

Chaldea, C:337 with map

China (History), C:458 with maps

Citizenship (History), Ci:16

City (Ancient cities), Cl:22

Civilization (How civilizations develop),

Clothing (Ancient times), Ci:98 with Dicture

Conservation (The rise of civilization), Cl:300

Cooking (History), Ci:335

Copper (Early civilizations), Ch344

Democracy (Origins of democracy), D:103

Doll (The history of dolls), D:244

Drug (Drugs in ancient times), D:317 Ebla, **E:50**

Egypt, Ancient, E:120 with pictures and map

Etruscans, E:344 with pictures and map

Food (Ancient times), F:301

Germany (History), G:130

Government (History of government),

Greece, Ancient, G:347 with pictures and map

Hairdressing (Ancient times), H:12 History (The divisions of history).

H:224; (Ancient times) H:225

Hittites, H:232 with picture

Indian, American (The first Americans), I:149 with pictures

Indus Valley civilization, 1:206 with pictures and map

lews, 1:112 with map

Kush, K:342 with map

Law (The development of law), L:112

Media, M:305 with map

Medicine (History), M:313

Mesopotamia, M:371 with map

Mexico (History), M:417

Mitanni, M:516

Nok. N:238

Painting (Origins and early painting), P:46 with pictures

Persia, Ancient, P:292 with pictures and map

Phoenicia, P:428 with map

Poetry (History), P:613

Rome, Ancient, R:371 with pictures and map

Science (Early civilizations), S:143

Sculpture (The importance of sculpture), S:186; (Beginnings) S:194;

(Prehistoric sculpture) S:194 Shelter (Shelter through the ages),

S:351

Slavery (Ancient times), S:480 Sumer, So:407 with pictures

Textile (History), T:175

Town planning (History of town planning), T:318

World, History of the (Early centres of civilization), W:332; (The advance of civilization) W:336

Ancient Cures, Charms and Usages of Ireland (book by Wilde)

Wilde, Sir William Robert Wills,

W:249

Ancient Egypt

See Egypt, Ancient

Ancient Greece

See Greece, Ancient

Ancient history

Food (Food through the ages), F:301 History (The divisions of history), H:224; (The development of his-

torical writing) H:225

Ancient lights, A:352

Ancient Mystical Order Rosae Crucis Rosicrucian Order, R:402

Ancient Order of Hibernians

Northern Ireland (Way of life), N:272

Ancient philosophy

Philosophy, P:423

Ancient Rome See Rome, Ancient

Ancón, Treaty of [1883]

Peru (The War of the Pacific), P:316 Ancon (ship)

Panama Canal (The oceans united), P:125

And a Voice to Sing With book by Baezl

Baez, Joan, B:25

And God Created Great Whales [music by Hovhaness]

Hovhaness, Alan, H:333

Andalusia [Spain], A:352

Andaman and Nicobar Islands (India), A:352

Andean cock of the rock

Bird picture on. B:330

Andean condor

Condor, Ci:274 with picture Vulture (New World vultures), V:430

Andean Highlands Bolivia (The land), B:428

Andean Indians

Cocaine (History), Ci:139

Indian, American (Indians of the Andes), 1:161

Andersen, Hans Christian [Danish author!, A:352 with picture Fairy (Fairles in literature), F:11

Anderson, Carl David [American physicist), A:353

Dirac, Paul Adrien Maurice, D:186

Anderson, Dame Judith (Australian actress], A:353

Anderson, Elizabeth Garrett (British doctor), A:353

Anderson, Marian [Amerian singer], A:353 with portrait

Anderson, Maxwell (American playwright), A:354

Anderson, Robert Fort Sumter, F:365

Anderson, Sherwood [American writer), A:354 with picture American literature (Realist fiction),

A:318

Andes Highland

Ecuador (Land), E:70

Andes Mountains, A:354 with picture and map

Argentina (The Andine), A:538 with picture and map

Bolivia (The Andean Highlands), B:428 Chile (The Central Valley), C:421 with

picture and map Colombia (The land), Cl:172 with pic-

ture Continental divide, Cl:316

Ecuador (The Andes Highland), E:70 with map

Indian, American (Indians of the Andes), I:161

Mountain (South America), M:667 Peru (The highlands), P:312

South America, So:92 Andesine

Feldspar, F:49

Andhra Pradesh, A:356 with picture and map

See also list of Related Articles India,, l:61 with map

Andine (region of Argentina) Argentina, A:558

Hormone (Growth and sex hormones).

Andy and the Lion [work by Daugherty]

Daugherty, James Henry, D:43

14:278

Heart (Symptoms and diagnosis),

See also Angiography

Angiography, A:366

Tutu, Desmond, T:477

Angling

See Fishing

See also Church of England

Anglo-Afghan wars Afghanistan, A:114

Anglo-Boer Wars, A:368 with map Cape Province (History), C:137

Gauteng (History), G:65

Rhodes, Cecil John (Conflict with the Boers), R:256

South Africa, History of, So:83 with picture

Anglo-Catholic, A:371 Anglo-Irish Agreement, A:371

Ireland, History of (The Republic of Ireland), I:377

Northern Ireland (The continuing conflict), N:275

Anglo-Irish Tradition, The book by Beckettl

Beckett, James Camlin, B:178

Anglo-Saxon Attitudes [work by Wilsonl

Wilson, Sir Angus, W:261

Anglo-Saxon [language]

English language (The development of English), E:282

Angio-Saxon Chronicle, A:371

Alfred the Great (Encourages learning), A:249

Anglo-Saxon settlement

Kings and queens of Britain and Ireland (The Anglo-Saxon and Danish Kings), K:260

Anglo-Saxons

Alfred the Great, A:249

Angles, A:368

Egbert, E:97

England (The Anglo-Saxon period),

Heptarchy, H:158

Jutes, 1:175 Saxons, **S:117**

Anglo-Sikh War, First

Jammu and Kashmir (History), J:27

Angio-Zulu War, A:371

Angola, A:372 with map Flag picture on, F:200 Luanda, L:410

Angophoras, A:374

Angora [city] See Ankara

Angora (fibre), A:374

Angora cat

Cat (Long-haired breeds), C:249 with picture

Angora goat

Goat (Domestic goats), G:221; picture on G:223

See also Mohair

Angora rabbit

Rabbit (Domestic rabbits), R:38 with picture

Angry Penguins (Australian literary movement

Australia, Literature of (Modern poetry), A:833

Angstrom, A:374

Electron microscope, E:178 with pic-

Ángström, Anders Jonas, A:374 Anguilla [island], A:374

Saint Christopher and Nevis (History),

Angular gyrus

Brain (In the use of language), **B:515** with diagram

Angus (Scotland), A:375

Angus cattle

Cattle (Beef cattle [Aberdeen Angus]; picture), A:246

Anhedral crystal

Crystal (Crystallization), Ci:469

Anhinga, A:375 Bird picture on, B:340

Anhydride, A:375

Anhydrous ammonia, A:375

Ani. A:375

Aniline, A:375

Animal, A:376 with pictures

See also list of Related Articles Adaptation, A:32

Africa (Animals and plants), A:141 with pictures

Alps (Plant and animal life), A:285 Antarctica (Animal life), A:440 Arabs (Plants and animals), A:490 Arctic Ocean (Ocean life), A:548

Asia (Animals), A:650 with pictures Australia (Animals and plants), A:768 with pictures

Balance of nature, B:35

Bangladesh (Plants and animals), B:86 Brain (The brain in animals), B:518 Breeding (Animal breeding), B:552 Circus, Cl:10 with pictures Classification, Scientific, Ci:66 with di-

agram Climate (Animal life and climate), Ci:79 Cold-blooded animal. Ck159 Colour (Colour vision in animals).

Ci:194

Comparative psychology, Ci:247 with picture

Conservation (Wildlife conservation). Ci:297; (Conservation around the world) Cl:301

Desert (Desert animals), D:132 with pictures

Disease (Spread of infectious diseases), D:191

Drug (Sources of drugs), D:315 Ear (The ears of animals), E:13 with pictures

Ecology, E:55 with pictures Embryo, E:226

Evolution, E:406

Extinct animal, E:432

Eye (Eyes of animals), E:444 with picture

Food (Food from animals), F:295 Food supply (Major sources of food), F:311

Fossil, F:368

Fur, F:488 with pictures Game [animals], G:23

Gnotobiotics (science), G:218

Habitat, H:2

Hand, H:39

Heart (Hearts of animals), H:113 with pictures

Hibernation, H:189 with pictures Homologous structures, H:257 Hormone (Hormones of other animals), H:279

Horn, H:280 with pictures

Ice Age (Animals of the Pleistocene Ice. Age), 1:7

India (Animals), L69 with pictures

Indian Ocean (Animal life), 1:169 Instinct, 1:265

Invertebrate, I:322

Island (How life develops on Islands),

Life, L:245 with pictures

Livestock, L:337

Magnetism (Magnets In living things), M:59; picture on M:57

Mali (Animal and plant life), M:115 Metamorphosis, M:377 with pictures Mexico (Plant and animal life), M:412

Migration, M:460

Mountain (Plants and animals), M:666 Nervous system (The nervous system in other animals), N:85

New Zealand (Animal life), N:160 Nitrogen cycle, N:223 with diagram Nitrogen (Nitrogen and life), N:222 North America (Animal life), N:253 with pictures

Ocean (Life in the ocean), O:391 with pictures

Papua New Guinea (Natural resources), P:153

Pets, P:319 with pictures Photoperiodism, P:467 Plant (Plants and the cycle of nature),

P:542; (Seed dispersal) P:565 Poison (Plant and animal poisoning), P:620

Prairie (Life on the prairie), P:737 Protective coloration, P:812 with pictures

Psychology, P:827 with picture

Quarantine, Q:7 Rabies, R:39

Rajasthan (Plants and animals), R:125 Reproduction, R:224 with pictures

Respiration, R:241 Sahara (Plant and animal life), S:20

Seashore, \$:228 with pictures Singapore (Plants and animals), S:442 Skeleton (Animal skeletons), S:461 with diagram

Sleep (Sleep among animals), S:484 Soil (Effects of plants and animals),

So:21 Solar energy (Stored solar energy), So:23

South America (Animal and plant life), 50:95

Space exploration (Conducting scientific observations and research). So:138; (The space race begins) So:141; (Vostok and Mercury: The first human beings in space) So:145

Sumatra (Economy), So:405 Tanzania (Animal life), T:34 Teeth (Teeth of animals), T:97 with pic-

fure Temperature, Body (Cold-blooded animals), T:137 (Warm ded animals) T:137 Territoriality, T:159 Thailand (Animal life), T:182 Tropical rainforest (Animal life), T:415 Uttar Pradesh (Animals and plants), U:291 Venom, V:338 Veterinary medicine, V:352 with pictures West Indies, W:169 Wildlife conservation, W:250 Zoo, Z:502 with pictures Zoology, Z:506 Animal, Dwarf See Dwarf Animal, Endangered Animal (Special feature), A:396 Animal, Extinct See Extinct animal Animal, Prehistoric See Prehistoric animal Animal behaviour Sociobiology, So:10 Animal breeding Breeding, B:552 Cattle, C:270 with pictures Hybrid, H:393 Livestock, L:337 with pictures Pediaree, P:241 Animal by-products Meat processing table on, M:300 **Animal disease** Agriculture (Chemicals to control diseases), A:175 Livestock (Prevention of disease), L:338 Animal experimentation, A:417 Animai Farm (book by Orwell) Orwell, George, 0:507 **Animal fibre** Fibre (Natural fibres), F:67 Animal husbandry, A:418 Animai in its World (book by Tinbergen] Tinbergen, Nikolaas, T:260 Animal Kingdom, The Cuvier, Baron, Cl:508 **Animal kingdom** Classification, Scientific (How organisms are classified), Cl:66 Animal magnetism Hypnotism (Mesmerism), H:415 **Animal matter** Soil (Plant and animal matter), So:20 Animal oil Oil, 0:419 Animal psychology Comparative psychology, Cl:247 Animal rights activists Animal rights movement, A:418 Animal rights movement, A:418 Animal starch Glycogen, G:216 Animal tissues Tissue, T:263 Animal tracks

Bear (The body of a bear), B:168 with

diagram Beaver diagram on, B:177 Deer diagram on, D:79 Fox (The body of a fox), F:378 with dia-Lion diagram on. L:299 Mouse diagram on, M:676 Rabbit diagram on, R:37 Raccoon (The life of a raccoon), R:40 with diaoram Rat diagram on, R:141 Squirrel diagram on, So:255 Tiger diagram on, T:245 **Animal training** Dog (Training a dog), D:238 Dolphin (Training dolphins), D:253; picture on D:250 Homing pigeon, H:256 Horse (How to ride), H:296 Lion (Training lions), L:301 Mouse picture on, M:677 Parakeet, P:167 Animal waste Water pollution (Agricultural chemicals and wastes), W:89 **Animal** wax Wax, W:106 Animal worship, A:418 Animalcule Leeuwenhoek, Anton van. L:152 Animales Mexicano (illustration by Rafael Martin Literature for children, L:317 Animalia (biology) Kingdom, K:256 Animation (biology) Abortion (Abortion history), A:14 Animation (film technique), A:418 with pictures See also list of Related Articles Animism, A:422 Asia (Religions), A:637 Benin (People), B:237 Bihar (People), B:287 Cape Verde (People), C:141 Fetish, F:61 Guinea-Bissau (People), G:416 Malays, M:81 Mozambique (People), M:678 West Indies (Religions), W:166 Electrolyte, E:176 Ion (Behaviour of ions), 1:326 Anise, A:422 with picture Anise swallowtail Butterfly picture on, B:684 Ankara [Turkey], A:422 with picture Turkey, T:454 with pictures Ankle, A:423 Ankrah, General Joseph [Ghanaian po-[itical leader] Ghana (History), G:147 Ankylosaurus (dinosaur), A:424 Dinosaur (Ornithischians), D:180; pic-

ture on D:179

Anna Bolena (opera by Donizetti)

Ankylosing spondylitis

A:607

Donizetti, Gaetano, D:266 Anna Christie (play by O'Neill) O'Neill, Eugene Gladstone, 0:452 Anna Karenina (book by Toistoy) Tolstoy, Leo (His masterpieces), T:289 "Annabel Lee" [poem by Poe] American literature (Poetry), A:314 Annals of the Four Masters work by Four Masters] Four Masters, F:376 with picture Annals of the Kingdom of Ireland [work by Four Masters] Four Masters, F:376 with picture Indochina (The Khmer), 1:181; (French influence) k:181 Vietnam (Early years), V:380 Annamite Range [mountains, Vietnam] Vietnam (The Annamite Range), V:377; picture on V:378 Annapolis [U.S.A.], A:424 Annapurna [mountain, Nepal], A:424 Mountain (table), M:668 with diagram Anne (queen of England), A:424 with portrait England (The Augustan Age), E:279 Anne, Princess (Princess Royal) Elizabeth II (The Royal Family), E:214 Princess Royal, P:779 Royal Family of the United Kingdom, R:423: (The new Elizabethan Age) R:426 Anne, Saint, A:424 Anne of Austria (wife of Louis XIII), A-424 Anne of Bohemia [wife of Richard II], A:224 Anne of Brittany [wife of Louis XII], A:424 Anne of Cleves (wife of Henry VIII), A:424 Anne of Denmark lwife of James 11, A:424 Annealing, A:425 Glass (How glass is shaped and finished), G:193 Iron and steel (Finishing), I:398 Spring [metal device], So:240 Annelida Animal (A classification of the animal kingdom), A:414 Invertebrate, 1:322 Worm W:410 with picture Annie Allen [poetry by Brooks] Brooks, Gwendolyn, B:590 Annie Get Your Gun Imusical comedy Oakley, Annie, 0:375 Annihilation Antimatter, A:462 Gamma rays, G:26 Annihilation radiation Gamma rays, G:26 Anniversary, Wedding See Wedding anniversary Anno Domini (calendar) See A.D. Arthritis (Other forms of arthritis), Anno, Mitsumasa [author]

Literature for children, L:321

Anno's Aesop [fable]

Victoria Land, V:367

Literature for children, L:321 Annual [botany], A:425 Flower (Garden flowers), F:244 with pictures Gardening (Selecting the plants), G:36 Grass (The grass plant), G:301 Plant (Germination), P:560 Weed (How weeds grow), W:131 Annual ring Tree (How a tree grows; picture), T:379 Annuity, A:425 Insurance (Main kinds of life insurance), 1:272 Annular eclipse [astronomy] Eclipse, E:52 Annuiment, A:425 Divorce. D:214 Marriage (Laws concerning marriage), MEE18 Annunciation, The [painting by Fra Angelico) Painting (Florentine masters), P:54 with picture Annunciation [religion], A:425 Jesus Christ (The Nativity), J:97 Annunciation [painting by Campin] Campin, Robert, C:64 with picture Annunzio, Gabriele d' See D'Annunzio, Gabriele Annus Domini [work by Rossetti] Rossetti, Christina Georgina, R:404 Anode Battery (How dry primary batteries work), B:154 Crookes tube, Ci:453 Electric arc, E:140 Electric eye, E:144 Electrolysis (How electrolysis works), E:175 Electron gun, E:178 Ion (Behaviour of ions), 1:326 Silver (Extracting and refining silver), S:429 Vacuum tube (How a vacuum tube works), V:297 Anodizing, A:425 Electrolysis (Uses of electrolysis), E175 Anointing of the sick [religion], A:425 Roman Catholic Church, R:337 Anole Chameleon, C:339 Anopheles mosquito Malaria, M:78 with pictures Mosquito, M:633 with pictures Ross, Sir Ronald, R:403 Anoplura [entomology] Insect (table), t:262 Anorexia nervosa, A:426 Another Country [book by Baldwin]

prose), A:320

Baldwin, James, **B:39**

Heliman, Lillian, H:145

Anouilh, Jean (French playwright),

Drama (French drama), D:299

Heliman]

A:426

Infertility (Causes), 1:228 Anoxia, A:426 Anschütz-Kämpfe, Herman [German scientist Gyrocompass, G:444 Gyroscope (History), G:446 Anselm, Saint, A:426 William II, W:255 Ansett, Sir Reginald (Australian businessman]. A:426 with portrait Anskar, Saint [Frankish monk] Sweden (The early kingdom), So:473 Answer [music] Classical music (Fugue), Ci:58 Fugue, F:481 **Answer print** Film industry, F:90 **Answering service** Telephone, T:108 Ant, A:427 with pictures See also list of Related Articles Animal (Group living), A:410; picture on A:388 Bull ants, B:639 Fire ant, F:127 Insect picture on, 1:257 Ant bear Anteater, A:447 Ant lion, A:435 with picture insect (table), 1:262 Antabuse [drug], A:435 Drug abuse (Treatment of drug abuse). D:323 Antaeus [Greek mythology] Hercules (Other adventures), H:164 Antakya Antioch, A:462 Antananarivo [Madagascarl, A:435, M:26 with picture Antarctic See Antarctica Antarctic Circle, A:435 Antarctic Circumpolar Current Pacific Ocean (Currents and tides), P:15 **Antarctic Convergence** Antarctica (Land and climate), A:438 Indian Ocean, 1:169 Antarctic icebergs fceberg, I:18 Antarctic icecap Antarctica, A:438 Antarctic Ocean, A:435 Pacific Ocean (Boundaries and size), P:14 Antarctica, A:436 with pictures and maps Animal with pictures, A:392 Bird (Sea birds and birds of the Ant-American literature (Fiction and other arctic), B:336 with pictures Byrd, Richard Evelyn, B:694 Enderby Land, E:243 Another Part of the Forest play by Glacier picture on, G:174 Icecap, I:19 Mawson, Sir Douglas, M:272 Ozone, 0:542 Palmer, Nathaniel Brown, P:108 South Pole, So:118

Anovulation

Antares (astronomy), A:446 Star (table), So:284 Antbird, A:446 Anteater, A:447 with picture Animal picture on, A:389 Antecedent (grammar), A:447 Pronoun, P:801 Antelope, A:447 with pictures Addax, A:33 Animal (Escaping by flight), A:404; (Dangers of migration) A:411; picture on A:409 Gazelle, G:66 with picture Gemsbok, G:74 Steenbok, So:310 with picture Antelope jack rabbit Jack rabbit, I:3 Antenna cleaner Bee (Legs), B:185 Antennae lentomology), A:449 with picture Ant. A:427 Sec. B:185 Beetle, B:197 with picture Butterfly, B:686 Grasshopper (The body), G:304 Insect (The bodies of insects), 1:248: picture on I:253 Moth. M:640 Water beetle, W:84 Water flea. W:85 Anthem Australian national anthem, A:833 Classical music (Songs), Cl:57 National anthem. N:30 Tallis, Thomas, T:17 See also Hymn Anthemius of Trailes [architect] Architecture (Byzantine architecture), Anther Flower (The stamens; diagram: Parts of a flower), F:261 Maize (How the plant reproduces), M:72 Plant (Flowers), P:535 with picture; (Sexual reproduction) P:556 with pictures Seed (Seed development in anglosperms), S:236 Antheridia Fern. F:56 Liverwort, L:336 Moss (How mosses live), M:637 **Antheridium** See Antheridia Anthilis of the Savannah book by Achebel Achebe, Chinua, A:23 Anthocyanin Leaf (The leaf changes colour), L:127 Anthony, Susan Brownell (American reformer), A:449 with picture Anthony Adverse [book by Allen]

Allen, Hervey, A:272

Ervine, St. John, E:323

Anthony and Anna work by Ervinel

Anthony of Padua, Saint, A:450

See also list of Related Articles

bacteria), B:20

Bacteria (Protection against harmful

Disease (Treating disease), D:197

Antifertility drug Anthony of Thebes, Saint, A:450 Drug (Drugs that fight bacteria), D:312 Rat (Rats and people), R:142 with pic-Dubos, René Jules, D:334 Monasticism (Christian monasticism), ture M:544 Fermentation, F:54 Antifreeze, A:459 Religious life (The Roman Catholic Medicine (The medical revolution), Freezing point, F:439 Church), R:208 M:317 Glycol, G:216 Penicillin, P:259 Anthracene **Antigelling agent** Pneumonia (Treatment and preven-Hydrocarbon (Aromatics), H:401 Glue, G:215 tion), P:607 **Anthracite** Tetracycline, T:165 Antigen Coal (Uses of coal), Ch121 Fuel (Solid fuels), F:478 Antibody Biology (Current research and issues) AIDS (Diagnosis), A:180 Heating (Coal), H:128 Pennsylvania (Economy), P:264 Allergy (How an allergy develops), Blood (Blood groups), B:398 Immune system, 1:38 (Parts of the Im-Anthracnose A:275 Alfalfa (Diseases and pests), A:248 Bacteria (Protection against harmful mune System) I:38 Monoclonal antibody, M:568 Bean (Pests and diseases), B:167 bacteria), B:20 Pepper, P:270 Biology (Current research and issues), Tissue transplant (Matching tissues), Raspberry (Pests and diseases), R:140 R:308 Anthrax, A:450 Blood (White blood cells), B:394 with Antigone [Greek mythology], A:459 with Bacteria (Harmful bacteria), B:20 picture; (The ABO blood groups) picture Bacteriology (History), B:23 Antigonid dynasty, A:459 Cattle (Diseases), C:276 Cancer (In immunology), C:123 **Antigorite** Koch, Robert, K:312 Disease (Immune reactions), D:196 Serpentine, S:271 Medicine (The scientific study of diswith picture Antigravity, A:459 ease), M:316 with picture Food (Regulating body processes). Antiqua (Guatemala), A:460 Pasteur, Louis (His work in medicine), F:296 Guatemala (Colonial period), G:400 P:212 Gamma globulin, G:26 Antigua and Barbuda, A:460 with pic-Anthropold Immune system, 1:38 ture and map Ape, A:470 with pictures Immunization, 1:44 CARICOM, C:199 Gorilla, G:258 with pictures influenza (How influenza spreads), Flag picture on, F:202 Primate, P:777 1:232 Saint John's, S:35 Anthropology, A:450 Kidney (Kidney diseases), K:245 Antihistamine |drug|, A:462 See also list of Related Articles Lymphatic system (Lymphocytes), Hay fever (Treatment), H:90 Archaeology, A:499 Antihypertensive Culture (How people study culture), Monoclonal antibody, M:568 Drug, D:313 Ci:493 Multiple sclerosis, M:694 Antiknock petrol Prehistoric people (The rise of modern Nutrition (Proteins), N:363 Petrol (Petrol octane ratings), P:329 human beings), P:756 Plasma (Functions of plasma), P:575 Tetraethyl lead, T:166 Science (The social sciences), S:141 Protein (How the body uses proteins), Antilepton Anti-Defamation League P:814 Lepton, L:184 B'nai B'rith, B:412 Rh factor, R:249 Antill, John (Australian composer), **Anti-Fascist People's Freedom** Serum. S:272 A:462 League (AFPFL) Virus (Virus diseases in human be-Antilles Burma (History), B:660 ings). V:406 West Indies, W:163 Anti-Rh [physiology] Antichrist, A:458 Antilock-brake system Rh factor, R:249 Antichrist, The (book by Nietzsche) Car (The brake system), C:158 Anti-Semitism, A:464 Nietzsche, Friedrich, N:202 Antilopine wallaroo Jews (Jews in Christian Europe), J:114; Anticline [geology] Kangaroo, K:186 with picture (the growth of anti tism) J:115 Petroleum (How petroleum was Antimatter, A:462 Antiaircraft artillery formed), P:339 with picture See also Neutron Artillery, A:614 Anticoagulant [drug], A:458 Space exploration (Plans for the fu-Antialrcraft defence, A:455 with dia-Anticyclone ture). So:161 gram Air (Air movement), A:185 Antimony [element], A:462 See also list of Related Articles Calms, Regions of (The horse lati-Antimony chloride Antiaircraft weapon tudes), C:43 Hydrolysis, H:407 Machine gun, M:14 Weather (Pressure systems), W:114 Antineutrino latomic particleì Antiarrhythmic Wind (Synoptic-scale circulation), Neutrino, N:105 Drug, D:312 W:268 Radioactivity (Beta radiation), R:88 Antiballistic missile (ABM) **Antidiuretic hormone** Antineutron, A:462 Guided missile (Surface-to-air mis-Hormone (Blood composition horsiles), G:409 with picture mones), H:278 Bird (Other daily activities), B:343 Nuclear weapon (Control of nuclear Hypothalamus, H:417 Antioch [Turkey], A:462 weapons), N:339 Antidote, A:458 Antiochus III [Seleucid king] Antibaryon [physics] Poison,, P:615 Hannibal (After the war), H:55 Hadron, H:4 Antietam, Battle of Antiochus IV [Seleucid king] Antibiotic, A:456 with diagram American Civil War (The war in the

East-1861-1863), A:306

Magnetism (Magnetism of materials),

Antiferromagnetic ordering

M:56

Daniel, Book of, D:30

Judah Maccabee, J:153

Antiope [Greek mythology]

Jerusalem (Ancient times), J:93

Jews (The Hellenistic period), J:113

Antioxidant

Food preservation (Adding additives). F-307

Petrol (Petrol additives), P:330 with diagram Rubber (General-purpose synthetic

rubber). R:436

Antiparticle

Antiproton, A:461

Antipasto [food]

Italy (Food and drink), 1:454

Antiperspirant

Deodorant, D:122

Antipodean School [painting] Drysdale, Sir Russell, D:328

Antipodes, A:462

Antipope

Pope (The election of a pope), P:675 Reformation (Religious causes), R:180

Antiproton, A:462

Antipyretic drug

Fever, F:65

Antiquarianism

Archaeology (Beginnings), A:504

Antiquark

Gluon, G:216 Hadron, H:4

Antique, A:463 with pictures See also list of Related Articles

Furniture, F:493

Antiquity of Man, The [book by Keith] Keith, Sir Arthur, K:210

Antiseptic, A:464

See also list of Related Articles

Bacteria (Protection against harmful bacteria), B:20

Disinfectant, D:199

Hospital (The 1800's), H:316

Iodine (Uses of Iodine), 1:324

Lister, Sir Joseph, L:307

Medicine (Introduction of antiseptic surgery), M:317; picture on M:316

Semmelweiss, Ignaz Philipp, S:248 Surgery (Antiseptics and asepsis),

So:437

Antiserum

Drug (Drugs that prevent infectious diseases), D:312

Immune system (Passive immunity), 1:42

Serum, S:272

Antislavery movement

Abolition movement, A:13

Antisthenes [Greek philosopher]

Cynic philosophy, Ci:512

Antisubmarine missile

Guided missile (Surface-to-surface missiles), G:409

Submarine (Attack submarines), So:368

Antisubmarine rocket (ASROC) Torpedo (How a torpedo operates),

T:303

Antitoxin, A:465

Bacteria (Protection against harmful bacteria), B:20

Diphtheria (Treatment), **D:184**

Serum, **\$:272**

Tetanus, T:165

Toxin, T:321

Antitrust laws, A:465

Antitumour drug

Drug, D:314

Antiviral drug

AIDS (Treatments), A:180

Antivivisection

Animal experimentation, A:417

Antlor

Horn, H:280

Antoinette, Marie

See Marie Antoinette

Antonine Wall

Roman walls, R:347

Scotland, History of (The Romans and

after), S:167

United Kingdom, History of the (The arrival of the Romans), U:127

Antoninus Pius [Roman emperor], A:465

Antonioni, Michelangelo Italian film director), A:465

Antonius, George [Palestinian writer], A:465

Antony, Mark [Roman general], A:466 with portrait

Actium, Battle of, A:27

Alexandria (History), A:245

Augustus, A:745

Caesar, Julius (Last victories), C:13 Cicero, Marcus Tullius (His life), Ci:2

Cleopatra (Cleopatra and Mark Antonyl, CI:74

Octavia, 0:406

Rome, Ancient (Breakdown of the republic), R:380

Shakespeare, William (Julius Caesar), S:315; (Antony and Cleopatra)

S:320 with picture Triumvirate, T:411

Antony (book by Dumas)

Dumas, Alexandre, père, D:343

Antony and Cleopatra (play by Dryden) Dryden, John, D:327

Antony and Cleopatra [play by Shake-

speare]

Shakespeare, William, S:320

Antonym, A:466

Antoipit, A:466

Antrim (local government district, Northern Ireland), A:466

Antrim, County [Northern Ireland], A:466 with picture and map

Arms picture on, A:588

Antrim, Mountains of

Northern Ireland (Surface features).

Antwerp (Belgium), A:467 with picture

Belgium picture on, B:214 Anubis (Egyptian god), A:468

Anura [order]

Toad, T:268 with pictures

Anus

Butterfly (The digestive system), B:687 Insect (Abdomen), I:250

Intestine, 1:298 Anvers

See Antwerp

Anvil [anatomy]

Ear [The middle ear], E:7 with diagram

Apvil Itaall

Blacksmith, B:381

Riveting, R:293

Anxiety

Existentialism, E:415

Mental illness (Anxiety and related disorders). M:352

Neurosis (Neurosis as a disorder), N:103

Personality (Personality traits), P:299: (Freud's psychoanalytic theory)

P:300; (Emotional reactions) P:300

Phobia, P:427

Tranquillizer, T:337

Anything Goes [music by Porter] Porter, Cole with portrait, P:696

ANZAAS

See Australian and New Zealand Association for the Advancement of Science

Anzac, A:468 with picture and map Australia, Armed services of (History),

A:779 Australia, History of (The Western Front), A:817

New Zealand, History of (World War I), N:173

Anzlo [Italy], A:469

ANZUS [treaty], A:469

New Zealand, History of New Zealand since 1972), N:175

Ao dai (clothing)

Vietnam (Clothing), V:378

Aorta, A:469

Aneurysm, A:364 Artery (Principal arteries), A:605

Frog diagram on, F:465

Heart (Blood vessels), H:102

Human body (The blood vessels),

H:356 Insect (Circulatory system), I:250 with

diagram Pulse. P:853

Aortic valve [anatomy]

Heart (Valves), H:102 with picture

New Zealand, History of, N:164

Apabhramsha

India, Languages of (Pall, Prakrit, and Apabhramsha), I:123

Apache [tribe]

Indian, American (Indians of the Southwest), I:159, I:163

Indian Wars (Apache warfare), I:177

Apapane Hawaiian honeycreeper picture on,

H:83 Apartheld, A:469

African National Congress (ANC), A:154

Bophuthatswana, B:464

Cape Province (History), C:137 Civil disobedience (Is civil disobedi-

ence ever justified?), Ch40 De Klerk, F. W., D:90

Eastern Cape (History), E:46

P:720

Lacewing, L:9

Aphid lion

Fugard, Athol, F:480 Aphorisms of Justification book by M:595 with pictures National Aeronautics and Space Ad-Gauteng (History), G:65 Rayter Ghetto, G:150 Baxter, Richard, B:161 ministration (NASA), N:30 Mandela, Nelson, M:150 Aphrodite [Greek mythology], A:471 Science picture on, S:148 Space exploration, So:128 with pic-Minority group (Results of minority Adonis, A:56 status), M:501 Ares, A:550 ture; (Apollo: Mission to the New Zealand, History of (New Zealand Mythology (Greek heroes), M:757; moon) So:148 with pictures and since 1972), N:175 (table) M:758 diagram Pan-Africanist Congress of Azania Pygmalion, P:870 White, Edward Higgins, II, W:231 (PAC), P:111 Trojan War (The beginning of the war), **Apollo-Soyuz Test Project** Space exploration, So:155 with picture Qwagwa, Q:34 Racism, R:51 Troy (The legendary Troy), T:421 **Apollonian tendency** Segregation (Segregation in other Apiary Nietzsche, Friedrich, N:202 countries). S:239 Bee (Beekeeping), B:184 Apologia pro Vita Sua book by New-South Africa, So:55; (Way of life) So:59 **Apical** meristem man South Africa, Art of (Art and apartheid), Bud, B:612 with diagram Kingsley, Charles, K:282 So:71 Plant (Stems), P:554 Newman, John Henry Cardinal, N:179 South Africa, Government of, So:73 Root (Parts of a root), R:393 Apologies (book by Justin) Apicomplexan South Africa, History of, So:85; (Oppo-Justin the Martyr, Saint, J:174 sition to apartheld) So:85 Protozoan, P:819 with picture Apologist (religion), j:174 South Africa, History of (The end of **Apiculture** Apology, The book by Platol apartheid), So:86 Bee (Beekeeping), B:184 Plato (The dialogues), P:590 South African homelands, So:88 APL [programming language] Socrates (Socrates' life), So:14 Tutu, Desmond, T:477 Computer (Using programming lan-Apology for Actors, An iplay by Hey-United Nations (Problems in southern guage), Ci:262 woodl Africa), U:178 Aplacophora Heywood, Thomas, H:189 Apartment Mollusc, M:537 **Aponte Martinez**, Luis Cardinal House, H:321 Apocalypse Puerto Rican religious leaderl, See also Housing Revelation, Book of, R:245 A:472 Apocalypse Now [film] Apostie, The book by Aschi Crystal (Classifying crystals), Cl:469 Coppola, Francis Ford, Ch343 Asch, Sholem, A:619 with picture Apocalypse of Angers [tapestry] Apostle bird, A:472 with picture **Apatosaurus** Tapestry (History), T:40 Apostles, The [music by Elgar] Dinosaur, D:175; (Saurischians) D:177; Apocrine gland Elgar, Sir Edward William, E:210 pictures on D:178, D:182 Skin (Glands), S:470 Apostles [New Testament], A:473 Ape, A:470 with pictures Apocrypha, B:275 Apostles' Creed (religion), A:473 Animal (A table of animal intelligence), Old Testament, 0:428 **Apostolic See** A:401; (When animals appeared Apogee Pope. P:673 on the earth) A:411 Moon (The orbit of the moon), M:590 Apostolic succession Human being picture on, H:347 Orbit, 0:485 Bishop, B:370 Apelles (Greek artist), A:471 Apoliinaire, Guillaume (French poet), Apostrophe **Apennine Mountains** A:472 Punctuation, P:857 Moon (The moon's surface), M:585 French literature (Surrealism), F:450 Apothecaries' pound Apennine Tunnel [italy], A:471 Apollo [astronomy] Pound, P:728 Apennines imountains, Italyl, A:471 Asteroid, A:678 Apothecaries' weight, A:473 Italy, 1:460 Apollo [Greek mythology], A:472 with Apothecary Aperture picture Pharmacy, P:358 Camera, C:55 with picture Agamemnon, A:155 **Apothem** Film Industry (The camera), F:91 Aurora, A:748 with picture Octagon, 0:406 with picture Photography (Aperture size), P:447 Cassandra, C:228 Appalachian dulcimer with picture Daphne, D:32 Dulcimer, D:343 Photography (Capturing light rays), Delphi, D:99 **Appalachian Highlands** P:442 Greece, Ancient picture on, G:353 Appalachian Mountains, A:473 Apex lorganization], A:471 Iphigenia, £329 North America, N:252 Aphasia, A:471 Midas, M:444 Speech therapy (Types and causes of United States, U:206 Muses, M:717 Appalachian Mountains, A:473 with speech defects), So:208 Orion, 0:498 Aphelion [astronomy] Sculpture (Classical sculpture), S:206 See also list of Related Articles Perihelion, P:282 World, History of the picture on, Mountain (Fold mountains), M:666 Aphid, A:471 with picture W:338 Alfalfa (Diseases and pests), A:248 with diagram Apollo Belvedere Mountain (North America), M:667 Ant (Dairying ants), A:433 Sculpture (Classical sculpture), S:206 Westward movement (Crossing the Insect (Family life), £256 with picture Apollo programme Appalachians), W:198 Ladybird, L:12 Aldrin, Edwin Eugene, Jr., A:241 White Mountains, W:236 with picture Pea (Diseases and pests), P:224 Armstrong, Neil Alden, A:590 Potato (Diseases and insect pests), **Appalachian Plateau** Astronaut (table), A:683

Borman, Frank, B:469

Collins, Michael, Ci:166

Moon (table), M:595; (Moon study)

Kentucky (Land), K:223 with map

New York (Land), N:140

Appalachian Region

Pennsylvania (Land), P:263

Canada, C:84 Appalachian Ridge and Valley Region

Pennsylvania (Land), P:263

Appalachian Spring Imusic by Coplandi Copland, Aaron, Ci:340

Appaloosa [horse]

Horse, H:289 with picture

Apparent magnitude

Magnitude, M:60

Star (Star terms), So:280; (Measuring brightness) So:289

Apparent motion

Motion, M:646

Apparent solar day

Time (Measuring time by the sun), T:256

Appeal [law], A:474

Parliamentary procedure (table), P:194 Trial, T:396

Appeal to the Colored Citizens of the World, An Ipamphlet by Walker Walker, David, W:22

Appeal to the Great Spirit, The sculpture by Dallin]

Dallin, Cyrus Edwin, D:11

Appearance and Reality book by Bradley

Bradley, Francis Herbert, B:506

Appel, Kenneth (American mathematiciani

Topology, T:299

Appellate court

Court (Trial and appellate courts), C1:399

Trial (Appeals), T:396

Appellate judge Judge, J:158

Appellate Jurisdiction Act [1876] Peer of the realm (History), P:245

Appendage

Water flea with picture, W:85

Appendicitis, A:475

Surgery (Some common surgical operations), So:438

Appendicular skeleton

Mammal, M:128

Skeleton, S:461 with diagram

Appendix

Balloon (Sport balloons), B:60

Book, B:454

Appendix [anatomy], A:475 with diagram

Appendicitis, E:475

Evolution (Vestigial organs), E:410

Apperson, Elmer and Edgar Haynes, Elwood, H:91

Appert process

Wire glass, W:279

Appert, Leon [French inventor] Wire glass, W:279

Appert, Nicolas [French confectioner] Food preservation (Modern food preservation), F:308

Appetite [philosophy]

Plato (Psychology and politics), P:591

Appetite [physiology]

Hunger, **H:384**

Weight control (Overeating), W:133

Applan Way, A:475 with picture Roman roads, R:346

Applus Claudius Caecus (Roman officiall

Roman roads, R:346

Apple, A:476 with pictures

Granny Smith, G:296 Apple gum [plant]

Angophoras, A:374

Apple of Discord

Paris (mythology), P:174

Apple of Sodom, A:479

Apples Be Ripe [book by Powys] Powys (Llewelyn), P:733

Appleseed, Johnny [American pioneer], A:479

Appleton

Reading, R:152

Appleton, Sir Edward Victor (British physicistl, A:479

Applied anthropology

Anthropology (Applied anthropology),

A:452

Applied art

Decorative arts, D:76 with pictures Fine arts (Grouping the arts), F:110

Applied ecology Ecology, E:59

Applied entomology

Entomology (What entomologists study), E:298

Applied mathematics

Mathematics (The importance of mathematics), M:255

Applied Motion Study book by Gilbreth brothers]

Gilbreth, G:158

Applied research

Research, R:236; picture on R:235

Applied science

See also Agriculture; Engineering; Medicine; Technology

Science (The importance of science), S:138 with picture

Appliqueé, A:479 with picture

Lace, L:7 with picture Ouilt, 0:29 with picture

Appointment in Samarra (book by O'-Haral

O'Hara, John, 0:417

Apposition (grammar), A:480 Punctuation (The comma), P:857

Appraisal, A:480

Appreciation (economics)

Balance of payments (Balance of payments and exchange rates), B:37

Apprentice, A:480

Education (History), E:89

Guilds, G:412

Horse racing (Jockeys), H:307

Approximation (mathematics)

Calculus (Finding areas), C:26 Cube root (Calculating cube roots),

Ci:484

APRA [political party]

Peru, P:316

Apricot, A:480 with picture April, A:481 with pictures

Calendar (History), C:35

April Foois' Day [custom], A:482 "April Showers" [song]

Jolson, Al. I:138

Apron beam

Weaving (Weaving on a loom), W:125

Architecture (table), A:514 with picture: (Medieval architecture)

A-523

Basilica, B:132

Cathedral (The Latin cross ground plan), C:262 with diagram

Aptitude test

Testing (Aptitude and interest tests). T:163

Appleius, Lucius (Roman author), A:483 Latin literature (Later Latin literature).

Novel (Ancient Greek and Roman nar-

ratives), N:311 Apulla and the Southeastern Plains

Italy, I:460 Agua regia, A:483

Nitric acid, N:221

Platinum (Properties), P:589

Aquaculture, A:483

Fishing industry (Fish farms), F:190 Ocean (The importance of the ocean), D:389

Aqualung

Cousteau, Jacques-Ives, Cl:402

Diving, Underwater (History), D:209

Skin diving (History), S:473

Aquamarine, A:483 Aquarium, Public

Aquarium, A:485

Aquarlum, A:483 with picture Pet (Pets for the home), P:319

Aquarius (astrology), A:485 with picture

Aquatic plant Water plant, W:88

Aquatic region

Plant, P:552 with picture

Aquatint, A:485

Aquavit [drink]

Denmark (Food and drink), D:111

Aqueduct, A:485

Rome, Ancient picture on, R:376

Aqueous humour [anatomy] Eye (Parts of the eye), E:435

Agulfer

Artesian well, A:606 with diagram Ground water, G:385

Irrigation (Ground water), I:406 Water (Ground water), W:76

Aquinas, Saint Thomas (Christian theologian], A:486 with portrait

Angel, A:364

Dominicans, D:262

Ethics (Christian), E:336

Philosophy (Medieval philosophy),

P>424

Physics (The Middle Ages), P:474 Political science (Scholasticism), P:653 Scholasticism (History), S:127

Science (The Middle Ages), S:145 Aquino, Benigno [Filipino political leader], A:486

Aquino, Corazon [Filipino political

Arabanoo [Aborigine captive], A:487

Phillip, Arthur (Abortgines), P:418

leader], A:487 with picture United Nations (UN) picture on, U:177 Arabesque (Islamic art), A:487 Amnesty, A:337 Islamic art (Design motifs), 1:418 Aragon (Spain) Philippines, History of the (The Marcos Arabesque (ballet) regime), P:413; (Cory Agulno Ballet (Classical ballet technique), B:51 Isabella I, I:411 comes to power) P:415 with picwith pictures Aragon, Louis Arabia Dadaism, D:2 President (Women as presidents), See Arabian Desert; Arabian Penin-P:769 sula; Saudi Arabia Ramos, Fidel Valdez, R:132 Arabian camel **Aquitanian Lowlands** Camel, C:51 with picture Aramid France, F:404 Dromedary, D:309 Arab [people] Arabian Desert, A:487 See Arabs Egypt (The Eastern Desert), E:114 Arab (animal) Syrian Desert, So:526 Horse (Light horses), H:287 with pic-Arabian Gulf Aranmore See Persian Gulf **Arab Common Market** Arabian Nights [stories], A:488 Common market, Ci:221 Aladdin, A:224 Arab-Israeli Wars Genie, G:84 Arabs (The Arab-Israeli conflict), A:493 Roc. R:306 Arapaima Army (Armies in the nuclear age), Arabian oryx A:595 Oryx, 0:507 Asia (Other struggles), A:662 Arabian Peninsula, A:488 Noah, N:225 Begin, Menachem, B:201 Arabian Sea, A:488 Cairo (History), C:20 Arabic alphabet Egypt (Renewed warfare and peace), Alphabet, A:284 Araucaria E:118 Arabic language, A:488 International relations (The Arab-Arabic literature, A:488 Israeli conflict). 1:296 Arabic numerals, A:489 Israel (History), 1:437 Decimal system, D:68 1967 (Arab-Israeli War) Air force (Fa-Fibonacci, Leonardo, F:66 mous air battles), A:199 Numeration systems, N:349 1956 Eden, Anthony, E:75 Egypt (Re-Arabs (people), A:489 with pictures and public) E:117 1967 Egypt (Progress and conflict), See also list of Related Articles E:118 Algeria (Arab conquest), A:265 1967 Hussein I, H:389 Asia (Country life), A:631 P:840 1967 Israel (The Six-Day War), 1:439 Bahrain (History), B:32 with picture Egypt, E:100 1948-1949 Jerusalem (A divided city), Family (Traditional families in other 1:94 Middle East (Palestine) M:456 cultures), F:23 Palestine (World War II and the Iraq (Arab rule), E:347 division of Palestine) P:104 Arbela, Battle of Jordan (Arab and Ottoman rule), 3:144 1967 Jerusalem (Israeli control), **J:94** Kenya (Arab and Portuguese control), 1967 Jordan (History), J:144 bela), A:245 E:230 1956 Middle East (Continuing conflict), Kuwait (People), K:343 M:456 Lebanon (Ethnic groups and religion), 1967 Nasser, Gamal Abdel, N:28 pire), P:295 L:145 1967 Palestine (The continuing con-Libya, L:237 flict), P:104 Mathematics (History), M:257 1967 Syria (The continuing Arab-Israeli Morocco (Arab conquest), Mc615 conflict), So:525 tion), 1:292 Music, M:735 1956 United Kingdom (Decline of the Arbitrator Palestine (Arab control), P:103 empire), U:152 Qatar (People), Q:3 lews (The rebirth of Israel), J:116 Arbor Day, A:497 Sahara (History), S:20 Kuwait (History), K:345 Saudi Arabia (People), S:104 Middle East (Continuing conflict), Sudan (People), So:381 Arboreal animal M:456 Tunisia, T:441 Sadat, Anwar ei-, S:7 Arachne (Greek mythology), A:495 Saudi Arabia (Faisal's rule), S:112 Arboretum, A:497 Arachnid Izoologyl, A:495 Suez Canal (History), So:386 See also list of Related Articles United Nations, U:175 Arachnoid membrane Arab League, A:487 Arborvitae, A:497 Brain (How the brain is protected), Arabs (Efforts for unity), A:493 B:512 Egypt (The 1940's), E:117 Arafat, Yasir [PLO leader], A:495 with Flag picture on, F:210 John Bull, J:130 picture Iraq (Independence), I:347 Arbutus, A:497

Middle East picture on, M:457

P:104

Palestine Liberation Organization,

Castile and Aragon, C:233 Aral Sea [Turkestan], A:496 Lake (table), L:19 Aramaic language, A:496 Rope (Synthetic-fibre rope), R:394 Aran Island [freland], A:496 Aran islands [freland], A:496 Aranda (people), A:496 See Aran Island Aranyakas [Indian sacred text] Hinduism (The Vedas), H:214 India, Literature of (The Vedas), 1:124 Fish picture on, F:165 Ararat [Turkey], A:496 Aras Iriver, Armenia) Armenia (Land and climate), A:580 Tree (Needleleaf trees), T:374 Arawak Indians, A:496 Aruba (History), A:615 Bahamas (History), B:30 Barbados (History), B:103 Dominica (History), D:257 Dominican Republic (History), D:261 Haiti, H:15; (History) H:18 Montserrat (History), M:581 Puerto Rico (People), P:846; (History) Saint Christopher and Nevis (History), Saint Lucia (History), S:39 Trinidad and Tobago (History), T:407 Alexander the Great (The Battle of Ar-Army (Famous land battles), A:593 Persia, Ancient (The Achaemenid Em-Arbitration, A:496 See also list of Related Articles International law (Courts and arbitra-Industrial relations, 1:209 Arbor Day (painting by Wood) Wood, Grant, W:300 Mammal (In trees), M:131 Arborlow (England) Derbyshire (Places to visit), D:127 Cedar (Cupressineous cedars), C:290 Arbuthnot, John (Scottish writer)

Arc [geometry]

Arc, Joan of

Circle (Parts of a circle), C:5

See Joan of Arc, Saint Arc de Triomphe [Paris], A:497 Paris picture on, P:180 Arc jet rocket Rocket (Electric rockets), R:321

Arc lamp See Arc light

Arc light, A:498

Electric light (Gaseous discharge lamps), E:150

Electric power (Early developments), E:161

Arc welding

Helium (Uses), H:143 with picture Noble gas, N:237 Welding, W:143 with picture

Arcade

Bologna, B:431 with picture Electronic game, E:179

Arcadia [Greece], A:498

Arch [anatomy]

Foot, F:316 with diagram

Arch [architecture], A:498 with pictures and diagram

See also list of Related Articles Building construction (Beams, girders, and columns), B:627

Rome, Ancient (Architecture and engineering), R:375

Arch bridge

Bridge, B:561 with picture

Arch dam

Dam (Kinds of dams), D:12

Arch of Constantine

Constantine the Great, Ci:307 Rome picture on, R:367

Arch of Septimius Severus Forum, Roman, F:366 with picture

Arch of Titus

Titus [Roman emperor], T:267

Arch of Triumph [book by Remarque] Remarque, Erich Maria, R:209

Archaeoastronomy

Astronomy (History), A:697 See also Stonehenge

Archaeological Tour in Gedrosia, An (book by Stein)

Stein, Sir Aurel, So:312

Archaeology, A:499 with pictures See also list of Related Articles Anthropology, A:451 Culture (How people study culture),

Ci:493

Lake dwelling, L:22

Prehistoric people (The single origin theory), P:757

Science (Anthropology), S:141 Troy (The archaeological Troy), T:422 X-rays (In scientific research), X:430

Archaeopteryx, A:506

Bird (The first known birds), B:356 Evolution (The fossil record), E:409 Prehistoric animal (Birds), P:746 with picture

Archaeozoic era

Earth (The earth's earliest history), E:26

Archaic sculpture

Sculpture, S:206 with picture Archaic triad [mythology]

Quirinus, Q:30 Archangel [Russia]

See Arkhangelsk Archbishop ltitle], A:506

Address, Forms of, A:41

Cathedral (Organization of a Cathedral), C:260

Metropolitan, M:390

Religion (How the major religions are organized), R:200

Archbishop of Canterbury

Anglicans, A:368

Archbishop, A:506

Church of England, C:502

England (Religion), E:268

Lambeth Palace, L:34 with picture

Archdiocese

Religion (How the major religions are organized), R:200

Archegonia

Fern, F:56

Moss (How mosses live), M:637

Archegonium

See Archegonia

Archer Ifamily, explorers), A:506 Archer, Fred (British Jockey), A:506

Archer, John Lee [civil engineer], A:507

Archerfish, A:507 with picture Archery, A:507 with pictures and diagrams

Olympic Games table on, 0:437

Archetype (psychiatry)

Jung, Carl Gustav (His theories), 3:168 Mythology (Mythology and the individual), M:765

Archibald Memorial Fountain, A:510 Archibald Prize, A:510

Archibald, Jules François (Australian

writerl, A:509 Australia, Literature of (The Middle Pe-

riod), A:831 Bulletin, The, B:640

See also Archibald Memorial Fountain: Archibald Prize

Archidamian War

Peloponnesian War, P:249

Archimedean screw, A:510 with picture

Arabs (Agriculture), A:492 Invention (Ancient Greece), 1:314 Screw (History), S:184

Archimedean solid, A:510 with picture Archimedes [Greek mathematician].

A:511

Aeroplane (Early experiments and ideas), A:76

Calculus (History), C:27

Geometry (Greek geometry), G:96 Hellenistic Age, H:144

Invention (Ancient Greece), 1:314

Lift (History), L:255

Mathematics (The Greeks and the Romans), M:257

Archipelago, A:511

Chile, C:421

Indonesia, I:182 with maps Island, 1:422

Malaysia, M:83

Pacific Islands, P:2 with pictures and

Philippines, P:369 with pictures and map

Archipenko, Alexander, A:511 with picture

Architecture, A:512 with pictures See also list of Related Articles Assyria (Art and architecture), A:676 Australia art and architecture of, A:785 Aztec (The Aztec heritage), A:902

Baroque, B:116 Byzantine art, B:696 with pictures

Celtic art. C:308 Dublin (Buildings), D:331

Georgian architecture, G:104

Gothic art, G:263 with pictures

Interior decoration, 1:282 with pictures Islamic art, 1:419 with picture

New Delhi (History), N:111 Renaissance (The fine arts), R:217 with pictures

Romanesque architecture, R:348 with picture

Sculpture (As part of architecture), S:189; (The peak of architectural sculpture) S:209; pictures on S:190

Theatre (Modern theatre architecture), T:191 with pictures

Tracery, T:322 with picture

Archives, A:540

Archon (Greek official), A:540

Archosaur

Dinosaur, D:175

Archytas (Greek philosopher) Aeroplane (Early experiments and ideas), A:76 Screw (History), S:184

Sound (Early thoughts), So:53

Arcology

Soleri, Paolo, So:29

Arctic Basin

Canada, C:85

Arctic, A:541 with pictures and map See also list of Related Articles Animal with pictures, A:392 Bird (Birds of the Arctic), B:320 with

pictures Climate (Differences in latitude), Ci:80

Flower (Flowers of the Arctic tundra). F:251 with pictures

Lichen (The Importance of lichen), L:240

Ozone, 0:542

Peary, Robert Edwin, P:237 Tundra, T:439 with picture

Arctic bottom water

Arctic Ocean (Water masses), A:545

Arctic bumble bee

Animal picture on, A:392

Arctic Circle, A:544

Midnight sun, M:458 Arctic cisco

Whitefish, W:237 Arctic fox, A:544

Fox (Kinds of foxes), F:379 with picture

Arctic hare

Animal (picture: Animals of the polar

Arctic Islands regions), A:393 Arctic Islands Canada, C:83 Arctic jaeger Bird picture on, B:320 Arctic Ocean, A:545 with pictures and Labrador Current, L:5 with diagram Maelstrom, M:38 Ocean, 0:386 Arctic tern, A:549 Animal (Animal migration), A:410; picture on A:376 Bird picture on, B:316, B:320 Arctic wolf Wolf. W:285 Arcturus [astronomy], A:549 Star (table), S:284 Arcus senilis Aging (Signs of aging), A:159 Ard Ri [title] Ireland, History of (The Celts), 1:366 Arden, Forest of [England], A:549 Arden, John (British playwright), A:549 Ardennes Belgium, B:219 Luxembourg (Land), L:421 Ardennes Mountains and Forest. A:549 Ardizzone, Edward [British author], A:550 **Ardmore Tower** Ireland picture on, 1:351 Ards [Northern Ireland], A:550 Ardshir I [king of Persia] Iran (The Sassanid dynasty), 1:338 Persia, Ancient, P:295 with portrait Area (geometry), A:550 Calculus (Finding areas), C:26 Measurement, M:294 with picture M:294 Metric system (Surface measurements), M:386 with diagram Square measure, S:242 Weights and measures (Surface or area) table on, W:138 Area of outstanding natural beauty Conservation (Europe), Ci:302 **Arecibo Observatory** Observatory (Radio observatories), 0:381 Arellano, Colonel Osvaldo López [Honduran revolutionary] Honduras (Recent developments). H:263 Arena polo Polo, P:658 with picture Areola Cactus (Parts of the cactus), C:9 Areopagitica [essay by Milton] Essay, E:330 Freedom of the press (History), F:438 Milton, John (Middle years), M:476 Solon, So:33 Areopagus [ancient Athens], A:550 Solon, So:33 Arepa [food]

Venezuela (Food), V:330

Arequipa [Peru], A:550

Ares [Greek mythology], A:550 Arethusa [Greek mythology], A:550 Arfon [Wales], A:550 Argand lamp Lamp picture on. L:37 Argand, Aime [Swiss chemist] Lamp (Fat or oil lamps), L:36 Argead dynasty Macedonia [historical region], M:8 Argelander, Friedrich Wilhelm August [Finnish-German astronomer], A:550 Argent Heraldry (Expansion), H:160 Argentina, A:551 with pictures and maps See also list of Related Articles Aviation (Aircraft nationality marks), A:061 Buenos Aires, B:620 Fascism (Fascism in other countries). F:31 Flag picture on, F:202 Latin America (Border disputes), L:92 Peron, Eva Duarte de, P:288 with por-Peron, Juan Domingo, P:288 with portrait Argo [mythical ship] Argonauts, A:565 Argon [element], A:565 Air (Gases of the air), A:183 Laser (Gas lasers), L:73 Argonaut (sea animal), A:565 with pic-Argonauts [Greek mythology], A:565 with map Argument Literature, L:311 Logic, L:361 Philosophy (Logic), P:421 Argus [Greek mythology], A:565 Argus [ship] Aircraft carrier (History), A:206 Argyll and Bute Local government district], A:565 Argyll Forest Park [Scotland] Strathclyde Region (Places to visit), So:347 Argylishire (Scotland), A:565 See also Scotland; Strathclyde Region Árhus [Denmark], A:565 Classical music (Operas), Ci:57 Opera, 0:458 Opera (table), 0:457 Aria with 30 Variations imusic by Bach, Johann Sebastian (His works), 5/17 Ariadne [Greek mythology], A:563 with picture Dionysus, D:183 Theseus, T:218 Ariadne [ship] Phillip, Arthur, P:416 Ariane Space exploration (Launch vehicles), So:132 with picture; picture on

Arianism [religion], A:566 Africa (The influence of Christianity), ACLUS Ambrose, Saint, A:302 Arius, A:574 Basil, Saint, B:132 Constantine the Great, Ci:307 Nicene Councils, N:198 Roman Catholic Church (The recognition of Christianity), R:338 Theodoric, T:213 Ariel isatellitel Satellite, Artificial (Important satellites), S:96 Artel [essay by Rodó] Latin-American literature (Modernism). Rodó, José Enrique, R:331 Aries, A:566 with diagram Ariosto, Ludovico (Italian poetl, A:566 Drama (Italian Renaissance drama), D-290 Aristarchus (Greek astronomer), A:566 Astronomy (Greek astronomy), A:697 Helienistic Age, H:144 Moon (table), M:595 Physics (The Greeks), P:474 Aristide, Jean-Bertrand (president of Haiti), A:566 Haiti (History), H:18 West Indies (The West Indies today), W:172 with picture Aristides (Athenian statesman), A:567 Aristocracy, A:567 Babylonia (Way of life), B:13 Aristophanes (Greek playwright), A:567 with picture Drama (Old Comedy), D:287 Aristotle (Greek philosopher), A:567 with pictures Air (The study of air), A:188 Alexander the Great (His youth), A:244 Biology (History), B:305 Classification, Scientific (Development of classification), Ci:68 Criticism (History of literary criticism), Ci:442 Drama (The structure of drama), D:285 Encyclopedia (History), E:239 Ethics (Systems of ethics), E:336 Geology (History), G:91 Geometry (Greek geometry), G:98 Heredity (Early ideas about heredity), H:172 Oratory (Classical orators), O:484 Peripatetic philosophy, P:283 Philosophy, P:423 Political science (The development of political science), P:653 Science (Ancient Greece), S:143 with portrait Zoology (History), Z:506 Arithmetic, A:569 with pictures See also list of Related Articles Mathematics, M:255, M:256 Multiplication, M:694 with diagrams Number theory, N:343 Numeration systems, N:346, N:347

So:162

Science (Mathematics and logic), S:139 Series., S:269 Set theory (Using set theory), S:276 Arithmetic progression, A:573 Progression, P:795 Series, S:269 Arlus [Alexandrian priest], A:573 Arizona [U.S.A.], A:574 with picture and map Arizona coral snake Coral snake, Ci:350 Arizona cypress Cypress, Ci:512 **Arizona ruby** Ruby, R:441 Arjuna (literary figure), A:575 Ark [religion], A:575 Noah, N:225 Ark of the Covenant, A:575 David [king of Israel], D:44 Tabernacle, T:2 with picture Arkansas [U.S.A.], A:576 with picture and man Arkhangelsk [city, Russial, A:575 Arkwright, Sir Richard (British Inventor], A:576 with portrait Industrial Revolution (Spinning machines), 1:213 Invention (Why people invent), 1:310 Slater, Samuel, S:480 Spinning (The water frame), So:230 Textile (The Industrial Revolution), T:175 Arlandes, Marquis d' [French balloon-Aeroplane (First manned flights), A:76 Balloon (History), B:63 Ariberg technique Skiing (The development of modern skiing), **S:467** Ariberg Tunnels (Austria), A:576 Arien, Michael (Bulgarian author), A:576 Arlésienne, L'[music by Bizet] Bizet, Georges, B:373 **Arlington National Cemetery** Washington, D.C. picture on, W:59 Arm lanatomyl, A:576 with diagram Reproduction, Human (The arms and legs), R:229 Armada

Armadillo, A:576 with picture Animal picture on, A:402 Mammal picture on, M:136 Armageddon (religion), A:577 Armagh [local government district, Northern Ireland), A:577 Armagh, County [Northern Ireland], A:577 with map and picture

Armed services Armenia, A:578 with picture and map Commonwealth of Independent Flag picture on, F:204 Armenian Church Armenia (People), A:579

Air force, A:195

Helicopter (For military missions),

Marine, M:208 with picture

Army, A:591

H:138

Caucasia, C:280

States, Ck222

Azerbaijan (People), A:896 Armenian language Armenia (People), A:579 Language (Indo-European), L:52 Yerevan, Y:452 Armenian Plateau Armenia (Land and climate), A:580 Azerbaijan (Land and climate), A:897 Armenian Rhapsody No. 1 (music by Hovhanessl Hovhaness, Alan, H:333 Armenians (people) Armenia (People), A:579 Minority group picture on, M:500 **Union of Soviet Socialist Republics** (People), U:29 Armidale (Australia), A:581 Armies of the Night, The book by American literature (Fiction and other prose), A:320 Mailer, Norman, M:69 Armill Crown jewels (Other royal ornaments), CI:461 Arminianism [religion] Arminius, Jacobus, A:581 Arminius, Jacobus [Dutch theologian], A:581 Armistice Truce, T:422 Versailles, Treaty of, V:349 World War I (The fighting ends), Armitage, Kenneth (English sculptor), A:582 with picture Armorials Heraldry (Expansion), H:160 Electric generator (How generators work), E:147; (Parts of a generator) Armoured reconnaissance vehicle

Armory Show Duchamp, Marcel, D:336 with picture Painting (American painting-1900-1940), P:83 Armour. A:582 with pictures

Animal (How animals protect themselves), A:401; picture on A:402 Knights and knighthood, K:302 **Armour-piercing bomb** Bomb, B:435 with picture Armour-piercing bullet Ammunition (Artillery ammunition),

A:335 Bullet, B:639

Tank. T:27 Arms [heraldry], A:584 with pictures See also list of Related Articles

Heraldry:, H:158 with pictures Arms control Bush, George Herbert Walker (Foreign affairs), B:669 Disarmament, D:186

Gorbachev, Mikhail Sergeyevich (International policies). G:256 international relations (The Cold War ends). 1:296

Kennedy, John Fitzgerald (Disarmament), K:217

North Atlantic Treaty Organization (History), N:259

Peace (Disarmament), P:225 Strategic Arms Limitation Talks. So:344

United Nations (Arms control), U:179 Washington Conference, W:63

Arms-control treaty International relations (Treaties), 1:294 Arms limitation

See Arms control Arms of assumption

Heraldry (Heraldry today), H:154 Armstrong, Duncan [Australian swimmer], A:590

Armstrong, Edwin H. (American radio pioneer)

Frequency modulation, F:455 Armstrong, Henry Jackson, Jr. (Amer-

ican boxer), A:590 Armstrong, John Ward [Irish religious

leaderl, A:590 Armstrong, Louis [American trumpet

playerl, A:590 with portrait Jazz (The 1920's), 1:75; picture on 1:77

Armstrong, Nell Alden | American astronaut], A:590 Astronaut (Important manned space

missions), M:709 with picture Space exploration, So:128; (Voskhod and Gemini: The first multiperson space flights) So:148; (Landing on

the moon) So:149 with pictures

Army ant

Ant, A:432 with picture Insect (Family life), 1:256

Army, A:591 with pictures See also list of Related Articles Greece, Ancient, G:352 Rome, Ancient, R:377 United Kingdom, Armed services of the, U:67 with pictures

Arnason, Ingólfur [Icelandic settler] iceland (History), 1:23

Arnaud, Émile (French statesman) Pacifism, P:17

Arne, Thomas (English composer), A:596

Arne (work by Bjørnson) Bjørnson, Bjørnstjerne, B:373

Arneson, Robert [American sculptor] Sculpture (Environmental sculpture),

Arnhem Land, A:596 Northern Territory (Land), N:279 Arnica, A:597 with picture

Arno River [Italy], A:597 Arnold, Benedict (Turns traitor),, A:597

Electric motor (Parts of an electric motor), E:153 Starter, So:295

See Spanish Armada

Armaments

Weapon, W:108

Armature, A:578

Arnold, Benedict (American general).

Arnold, Eddy [American singer], A:598 Arnold, Henry Harley (American Air Force commander]. A:598 with por-

Arnold, Malcolm [British composer]. A1598

Arnold, Matthew (English poet), A:598 Humanism (Education), H:364

Arnold, Thomas British educational reformerl. A:598

Rugby School, R:448

Arnolfini Wedding, The painting by Van Evckl

Painting (The Flemish style), P:57: picture on P:58

Van Evck, Jan. V:311

Aromatic

Hydrocarbon, H:401 Petrochemicals, P:328

Petroleum (Combining processes). P:350

Aromatic hydrocarbons

Benzene, B:241

Arosa (town, Switzerland) Switzerland picture on, So:491

Arouet, François Marie See Voltaire

Arousal of hehavlour Motivation, M:648

Arp, Jean (French sculptor), A:599 Dadaism. D:2

Árpád [Magyar chief] Hungary (Early years), H:381

Arquebus

See Harquebus

Arrangement in Gray and Black No. 1: Portrait of the Artist's Mother lpainting by Whistlerl

Whistier, James Abbott McNeill, W:230 with picture

Array [mathematics]

Determinant, D:140

Array detectors [astronomy] Telescope (Infrared telescopes), T:115

Arrector pili

Hair (Glands and muscles), H:11

Arrest [law], A:599

Law enforcement, L:117 Arresting gear

Aircraft carrier, A:205

Arresting trap

Trapping, T:366 with pictures

Arrhythmia, A:599

Heart (Heart terms), H:102; (Diagnosis and treatment) H:106; (Abnormal heart rhythms) H:109

Arrogance of Power, The book by Fulbright)

Fulbright, J. William, F:481

Arrow

Archery, A:507 with diagrams Curare, Cl:500

Arrow Cross [political party] Fascism (Fascism in other countries),

Arrow of God [book by Achebe] Achebe, Chinua, A:23

A PRODUCTION

Animal (A classification of the animal kingdom), A:414

Arrowroot iplantl. A:599

Tapioca, T:42

Arrowsmith book by Lewisl Lewis, Sinclair, L:199

Arrovo

Desert (Desert land and climate), D:131

Arsenic and Old Lace [play]

Karloff, Boris, K:195

Arsenic lelementl. A:599

Poison (Kinds of poison), P:620

Arson, A:599

Fire brigade (Fire prevention and fire safetyl, F:129

Art. Commercial

See Commercial art

Art and crafts

Inca. 1:50

Art and the arts, A:600 with pictures

See also list of Related Articles Australia, Art and architecture of, A:781

Australian Aborigines (Preserving Aboriginal arts). A:836

Aztec. A:900

Babylonia, B:14

Baroque, B:116

Biedermeier, B:284

Byzantine art, B:696 with pictures Carolingian art, C:207 with picture

Celtic art. C:307 with pictures

Colonial life in America, Ci:185

Criticism. Ci:442

Cubism, Ci:484 with pictures Gothic art, G:263 with pictures

Hobby (Kinds of hobbies), H:236

Humanism, H:363

Islamic art. E418

Maoris, M:178 Mava. M:280

Metropolitan Museum of Art, M:393

Music, M:725 with pictures Perspective, P:301 with pictures

Plato (Art), P:591

Pop art, P:672 with picture

Prehistoric people (The appearance of art), P:758; picture on P:757

Pre-Raphaelite Brotherhood, P:762

Realism (In painting), R:160 with pic-

Renaissance, R:214 with pictures Rococo, R:328

Romanticism (Romanticism in the arts).

Stained glass, So:263 with pictures

Tasmanian Aborigines, T:64

Woodcarving, W:302 with pictures Woodcut, W:304 with pictures

Art appreciation

Art and the arts (Enjoying the arts),

Art as Experience [book by Dewey] Dewey, John, D:150

Art deco, A:603 with picture Furniture, F:506

Art director

Film industry (Assembling the produc-

tion team). F:84

Art film

Film industry, F:104

"Art for art's sake"

Avant garde, A:877 Gautier, Théophile, G:65 George, Stefan, G:101

Art Gallery of New South Wales. A:604

Art glass

Glass (Types of art glass), G:198

Art Institute of Chicago, A:604 Art mucoum

Museum. M:718

Art nouveau, A:604 with picture Beardsley, Aubrey Vincent, B:172 with picture

Furniture, F:505 with picture Klimt, Gustav, K:296 with picture

Tiffany, Louis Comfort, T:243

Art of Fugue. The imusici

Bach, Johann Sebastian (His works). H:16

Art of Love | poem by Ovid Ovid. 0:526

Art of Poetry (book by Horace)

Criticism (History of literary criticism),

Latin literature (The Augustan Age),

Art of the Novel, The (book by lames)

james, Henry, J:21

Art rock

Rock music (Rock goes pop), R:313 Art romantique, L'[essays by Baude-

Baudelaire, Charles, B:158

Art song

Song, So:40

Artemis [Greek mythology], A:604 Mythology (Greek divinities), M:757;

Selene, S:244

Arterioscierosis, A:605

(table) M:758

See also list of Related Articles Aneurysm, A:364

Angina pectoris, A:365

Artery (The walls of arteries), A:605

Brain (Stroke), B:517

Cerebral haemorrhage, C:327 Chelation therapy, C:363

Circulatory system (Disorders of the

circulatory system), Cl:8 Diabetes (Complications), D:152

Disease (Chronic, degenerative diseases). D:193

Heart (Heart terms), H:102; (Causes) PE104

Mental illness (Physical changes), M:353

Stroke (Causes), So:358

Artery [anatomy], A:605 with diagram Aneurysm, A:364

Aorta, A:469

Arteriosclerosis, A:605

Circulatory system (Heart), Cl:7 with diagrams

First aid (Pressure on arteries), F:143 Fish (Circulatory system), F:170

Human body (The blood vessels). H:356

Artes populares

Latin America (Handicrafts), L:86 with picture

Artesian basin

Artesian well. A:606

Australia (Underground water), A:764

Artesian well. A:606 with picture Australia (Underground water), A:764 Queensland picture on. 0:23

Well (Water wells), W:144

Artha (Hinduism)

Manu. M:166

Arthritis, A:606 with pictures

Disease (Noninfectious diseases), D:193 Evening primrose, E:404

Rheumatism, R:251

Arthropod (zoology), A:607 with pic-

Animal (A classification of the animal kingdom), A:414

Entomology, E:297

Invertebrate, 1:322

Arthropoda

Animal (A classification of the animal kingdom). A:414

Invertebrate, I:322

See also Arthropod

Arthroscope

Arthroscopy, A:608 with picture Endoscope, E:244

Arthroscopy, A:608 with picture Arthur, Chester Alan (U.S. president),

A /GOO

Arthur, King (legendary figure), A:609 Caxton, William, C:288

England (The Germanic invasions). F:274

Excalibur, E:413

Galahad, Sir, G:9

Holy Grail (The search for the Grail), H-251

Lancelot, Sir, L:43 with picture Lanier, Sidney, L:55

Round Table, R:411

Arthur, Owen (Barbadian prime minister]

Barbados (History), B:103

Arthur, Sir George (Australian political leaderl, A:608

Port Arthur, P:692

Arthur's Seat [Scotland]

Lothian Region (Places to visit), L:396

Artibonite Pialn Haiti (Land), H:17

Artichoke, A:609 with picture

Article [grammar], A:610

Articles of association

Charter, C:355

Constitution, Ci:308

Articles of Confederation, A:610

Continental Congress, Ch315

United States, History of the (Background to the Constitution), U:242

Artifact

Archaeology (What archaeologists study), A:500 Vikings pictures on, V:388

Artificial blood

Blood transfusion, B:403

Artificial eye, A:610

Artificial heart, A:610 with diagrams

Artificial insemination

Breeding (Animal breeding), B:552 Dairying (Improvements in dairy farming). D:7

Fertilization, F:59

Infertility (Treatment), 1:229

Reproduction, Human (Fertilization).

Artificial intelligence, A:611

Turing, Alan M., T:452

Artificial lake

Lake (The life of a lake), L:17

Artificial limb, A:611 with picture and diagram

Artificial porcelain

See Soft paste porcelain

Artificial radioisotope

Isotope, I:428

Artificial reforestation

Forestry (Planting), F:357

Artificial respiration, A:612

Asphyxiation, A:668

Drowning (Giving first ald), D:310 First aid. F:144 with pictures

Artificial selection

Evolution, E:411

Artificial silk

Rayon, R:147 with diagram Textile industry (The age of modern textiles). T:176

Artificial sweetener, A:612

Soft drink (How soft drinks are made), Sp:17

Artificial teeth

Teeth (Removing and replacing teeth), T:95

Artificial turf. A:613

Artificial valve [medicine]

Heart (Valvular disease), H:108 with diagram

Artigas, José Gervasio Uruguayan patriot], A:613

Artillery, A:613 with pictures See also list of Related Articles Ammunition, A:335 with picture Firearm, F:137

Artisan

Scuipture (The 1000's), \$:209

Artist and repertoire (A & R) execu-

Recording industry (Before recording),

Artist

Clothing (Fashion writers and artists), Cl:108

Commercial art, Cl:219

Map (Drawing and reproduction), M:189

Painting (Famous artists and their paintings) table on, P:30

See also Advertising; Drawing Artists' hands [painting by Battiss]

South Africa, Art of picture on, So:70

See Art and the arts

Arts and crafts

See the Arts section in various country and continent articles. See also Handieraft: Hobby

Arts and Crafts Movement

Architecture (Farly modern architecture in Europel A:532

Arts and Decoration [magazine] Du Bois, Guy Pene, D:334

Arts Council

United Kingdom, Arts of the, U:82

Aru Islande

Indonesia (The Moluccas), 1:190: (Map)

Aruba [West Indies], A:615 with map and picture

Netherlands Antilles (History), N:101 Netherlands (Government), N:89

North America picture on, N:252

Arum, A:616 with picture

Arum Lilies [painting by Stern] South Africa, Art of picture on, So:70

Arun [England], A:616

Arunachal Pradesh [India], A:616 See also India, History of

Arundel [England]

Sussex (Places to visit), So:449

Arva Samai [Indian religious leader] Hinduism (Hindu reform movements). H-215

Aryabhatta [Indian astronomer], A:617 Arvan llanguagel

Persia, Ancient, P:292

Arvans [Nazi concept]

Aryans, A:617

Nazism, N:63 Races, Human (Race and discrimination), R:49

Aryans (people) A:617

Asia (The people), A:633; (The Indus Valley A:657

India, History of (The coming of the Aryans), I:103; (The Vedas) I:104; (The Aryan Social system) 1:104

Iran (Early days), 1:338

Mythology (Comparing myths), M:753 World, History of the (Achievements in

India), W:340

As [symbol] Arsenic, A:599

As If by Magic [work by Wilson] Wilson, Sir Angus, W:261

As Time Goes By Idance by Tharpl Tharp, Twyla, T:187

As You Like It |play by Shakespeare| Shakespeare, William, S:314

ASA system

Photography (Speed), P:449

Asado con cuero [food]

Argentina (Food and drink), A:556

Asakusa Shrine

Tokyo (Religion), T:283

Asangha (Indian holy man) Sculpture (Japan), \$:201 with picture

Asanto See Ashanti

Asaph, Saint, A:617

Asbestos (mineral), A:617 with picture Asbestosis

Asbestos (Hazards of asbestos), A:618 Asbjørnsen, Peter Christen Norwegian author), A:619 Asbury, Francis (American religious leader], A:619 Methodists, M:383 Ascariasis [disease] Roundworm, R:412 Ascaris lumbricoides Roundworm, R:412 Ascension [island, Atlantic], A:619 Ascension Day, A:619 Easter (The end of the Easter season), Pentecost, P:267 Ascent of Everest (book by Hunt) Hunt, Lord, H:384 Asceticism, A:619 Basil, Saint, B:132 Buddha (The great renunciation), B:614 Asch, Sholem [Polish-born author], A:619 Ascham, Roger [English author], A:619 Archery, A:509 Ascidian Sea squirt, S:223 with picture Asciepius (Greek mythology), A:619 Epidaurus, E:312 Greece, Ancient picture on, G:353 imhotep, №36 Medusa, M:323 Ascorbic acid Nutrition (Vitamins), N:364 Vitamin (Vitamin C), V:411 Asdic Sonar (History), So:40 ASEAN [organization] Association of Southeast Asian Nations, A:673 Asepsis Surgery, So:437 Aseptic packaging Food preservation, F:307 Aseptic surgery Surgery (Antiseptics and asepsis), So:437 Asexual reproduction Animal, A:404 with diagram Clone, Ci:87 Heredity (Sex cells and reproduction), H:166 Life (Reproduction), L:245 Plant (How plants reproduce), P:556; (Vegetative reproduction) P:559 with diagrams Reproduction, R:223; (How reproduction has evolved) R:224 with picture Sponge, So:235 See also Budding; Spore Asgard [Scandinavian mythology] Mythology (The construction of the world), M:761 Vikings (Religion), V:387 Ash [tree]. A:619 Ashiresiduel, A:620 Coal (Cleaning coal), Cl:128 Ash Shariqah [U.A.E.], U:38, U:40 Ash Wednesday, A:620

Easter (The beginning of Lent), E:42 "Ash Wednesday" [work by Eliot] Eliot, T. S., E:211 Ashanti [people], A:620 Africa pictures on, A:134, A:135 Doll (Doll festivals and customs), D:244 Ghana (People), G:146; (History) G:147 Mythology (African mythology), M:762 Ashbery, John [American poet] American literature (Poetry), A:319 Ashcan School, A:620 with picture Realism (In painting), R:160 Ashcroft, Dame Peggy English actress], A:620 Ashdown, Battle of, A:621 Ashdown, Paddy [British politician], Ashe, Arthur (American tennis player), A:621 AIDS (Public awareness), A:181 Ashes, The Cricket (History), Ci:430, Ci:431 Ashfield (England), A:621 Ashford [England], A:621 Kent (Local government), K:219 Ashgabat, A:621 Turkmenistan, T:466 Ashikaga [japanese history] Japan (Rise of the Shoguns), J:56 Shogun, S:391 Ashkenazim Israel (People), 1:431 jews, 1:112 Ashmolean Museum (England) Museum (Early museums), M:720 Ashmore and Cartier Islands (Indian Ocean], A:621 Ashoka See Asoka Ashrama [Hinduism] Manu, M:166 Ashton-under-Lyne [England] Tameside, T:19 Ashton, Sir Frederick (British choreographerl, A:621 with portrait Ballet (Ballet in Europe), B:57 Dancing (Dance since 1900), D:28 Ashtoreth Astarte, A:677 Ashur [Assyrian god] Assyria (Religion), A:675 Ashurbanipal [king of the Assyrians], Assyria (Language and literature), Gilgamesh, Epic of, G:159 Library (Libraries of clay), L:229 with picture

Nineveh, N:220

Agriculture, A:166

Bird (Endangered species), B:357

tures

Christmas, C:491

sail westward). Ci:207 Conservation, Cl:302 lies) L:52 pictures W:358 Turkey, T:454 A:664 Myrdall Asian flu Asian rice Asians World, History of the picture on, Asia, A:622 with pictures and maps See also list of Related Articles tures Bird (Birds of Asia), B:324 with pic-

Dancing picture on, D:21; (Oriental dancing) D:24 with pictures Drama picture on, D:285; (Asian drama) D:296 with pictures Film industry, F:105 Football, Association, F:334 Immigration, I:34 Language, L:49; (Other language fami-Library, L:227 Manufacturing, M:168 Music (Asian music), M:734; pictures on M:736 National Parks, N:39 Pacific Ocean (Boundaries and size). Painting (Oriental painting), P:48 with People, A:624 Petroleum (Where petroleum is found), P:337 Pirate (Asian pirates), P:521 Population (World population), P:684 Royal families, R:420 with pictures Sculpture, S:196 with pictures Way of life in Southwest Asia, A:630 World, History of the (Imperialism), W:355; (The birth of new nations) Asia Minor, A:664 with map See also list of Related Articles Sculpture (Prehistoric sculpture), S:194 Asia-Pacific Economic Co-operation (APEC), A:664 Pacific Rim. P:17 Asian-African Conference [1955] Bandung (History), B:77 Asian Development Bank (ADB), Asian Drama: An Inquiry into the Poverty of Nations (book by G. Myrdal, Gunnar, M:749 Influenza (Flu epidemics), F:242 Asian fruit pigeon Pigeon (The body of a pigeon), P:495 Asian Games, A:665 with picture Asian race [theory] Races, Human (The three-race theory), R:43; (The geographical theory) Rice (Kinds of rice), R:263 Africa (The peoples of Africa), A:122 with picture Asia (Peoples of Asia), A:625 with plo-Aslatic black bear Bear (Kinds of bears), B:169; picture on B:170 Aslatic class chicken Chicken, C:396

Clothing pictures on, Ci:95 Columbus, Christopher (The plan to Asiatic elephant

Elephant (Indian elephants), E:202 with pictures

Aslatic fern

Fern picture on, F:57

Aslmov, Isaac [American author], A:665

Askia Muhammad [West African ruler].

Mali (History), M:116

Songhai Empire, So:41

Asmara [Eritrea], A:665

Eritrea, E:319

Asmat [people]

Sculpture (Pacific Islands sculpture), S:204 with picture

Asoka lemperor of Ancient Indial, A:665 with picture

Asia (The Indus Valley), A:657

India, History of, 1:105 Maharashtra (History), M:66

Maurya Empire, M:271

World, History of the (Achievements in India), W:340

Asp, A:666 with picture

Asparagus beetle

Beetle picture on, B:199

Asparagus, A:667 with picture

Aspartame

Artificial sweetener, A:612

Soft drink (How soft drinks are made). So:17

Aspen [tree], A:667 with picture

See also Poplar

Tree (Broadleaf trees of the Northern Hemisphere) picture on, T:384

Asphalt, A:667

Gravel, G:307

Pitch, P:524

Asphalt mixer

Construction equipment (Other construction machinery), Ci:310

Asphodel, A:668

Asphyxiation, A:668

Aspidistra, A:668 with picture

Aspirin (drug), A:668

Analgesic, A:349

Fever, F:65

Salicylic acid. S:50

Asquith, Herbert Henry British statesman], A:669

Ass [domesticated]

Donkey, D:266 with picture

Ass [wild]

Onager, 0:451 with picture

Assad, Hafez al- Ipresident of Syrial,

President (Unlimited presidency),

Assam, A:669 with pictures and map Arunachal Pradesh (History), A:617 India, 1:68 with map

Assamese

India, Languages of (Modern Indo-European languages), 1:123

Assassin, The book by O'Flahertyl O'Flaherty, Liam, 0:416

Assassination, A:671

Kennedy, John Fitzgerald, K:217 Assault and battery [law], A:671 Crime (Crimes against people or property), Cl:436

Assay office mark

Halimark, H:24 Assaying, A:671

Assemblage [art]

Sculpture (Medieval and Renaissance sculptors), S:193 (Assemblages)

S:216 with picture

Assemblage [painting] Nevelson, Louise, N:106

Rauschenberg, Robert, R:145

South Africa, Art of (Overseas influences), So:71

Assembler

Clothing (Ready-to-wear clothing), CE106

Assembler (computer)

Computer (Programming a computer), Ci:261

Assemblies of Aesopic Tales [book] Aesop's Fables, A:108

Assemblies of God (religious group). A:672

Pentecostal churches (Major Pentecostal Churches), P:268

Assembly language

Computer (Using programming lanquages), Cl:262

Assembly line, A:672

Aeroplane (Mass production), A:104 with picture

Aviation (World War I), A:882 with pic-

Car (Manufacturing), C:161 with picture; (History of the car) C:166; picture on C:169

Conveyor belt, Cl:319

Factory (Kinds of factories), F:5

France picture on, F:409

Kaiser, Henry John, K:180

Mass production, M:245

Technology picture on, T:84

Assigned convict

Squatters in Australia (The first squatters), So:249

Assigned frequency

Radio (Broadcasting power and frequency), R:78

Assignment (law), A:672

Convicts in Australia (Assignment), Ci:322

Assimilation [biology], A:672

Assimilation (sociology), A:672

Australian Aborigines (Aboriginal policy), A:842

Immigration (Effects of immigration), E34

Jews (The Jews today), J:116 Minority group, M:500

Assinibola [American history], A:672 with map

Assisi, Francis of

See Francis of Assisi, Saint

Assistant, The [book by Malamud] Malamud, Bernard, M:77 Novel (After World War II), N:314

Assman psychrometer

Hygrometer (The psychrometer),

H:409

Associated Press, A:673 News service, N:179

Association

Indian, American (Family groups), 1:139

Association [psychology], A:673

Association cortex

Brain (The cerebrum), B:511

Association neuron

Nervous system (How the nervous system works), N:81

Association of Caribbean States

West Indies (The West Indies today),

W(172

Association of Southeast Asian Nations (ASEAN), A:673

Brunei, B:600

Common market, Cl:221

Indonesia (The fail of Sukarno), 1:202 International relations, 1:293

Malaysia (Foreign trade), M:94

Pacific Rim. P:17

Thailand (After World War II), T:184

Association of Tennis Professionals Tennis (Professional tennis), T:146

Association of Universities for Research in Astronomy (AURA)

National Optical Astronomy Observatories, N:36

Associative Law of Addition

Algebra (Fundamental laws), A:255

Associative Law of Multiplication Algebra (Fundamental laws), A:255

Assumed position

Navigation (Celestial navigation), N:52

Assumption (religion), A:674 Pius XII. P:529

Assurbanipal

See Ashurbanipal

Assyria, A:674 with pictures and map See also list of Related Articles

Architecture (Mesopotamian architec-

ture), A:517 with picture Army (Ancient armies), A:592

Asla (The Tigris-Euphrates Valley),

Babylon (The Old Babylonian Empire), B:12

Battering ram, B:153 with picture Clothing (Ancient times), Cl:98 with picture

Palestine (Invasion and conquests). P:103

Samaritans, S:61

Sculpture (Middle Eastern), S:194 World, History of the (Middle Eastern

> civilizations), W:336; picture on W:338

Astaire, Fred [American dancer], A:677 with portrait

Dancing (Dancing since 1900), D:28

Astarte [Semitic goddess], A:677

Astarte [ballet by Joffrey]

Ballet (Scenery), B:53

Joffrey, Robert, J:123 Astatine lelementl, A:677

Halogen, H:25

Aster, A:677 with picture

Asteroid, A:678

Horoscope, H:284

terms), So:130

terms), So:130

Zodiac, **Z:500**

Astronautics, A:684

Religion (Religion today), R:205 Astronaut, A:681 with pictures Space exploration (Space exploration Space exploration (Space exploration Astronomer Astronomy, A:685; (Astronomers at work) A:692; (Astronomy today) Science picture on, S:139 Astronomer Royal, A:684 Astronomical aberration [light] Aberration, A:11 Astronomical Almanac, The Almanac, A:280 Astronomical horizon Horizon, H:277 Astronomical season Season, S:230 with diagram Astronomical unit Astronomy (Astronomy terms), A:688 Solar system, So:26 Astronomy, A:685 with pictures and diagrams See also list of Related Articles Altitude, A:289 Archaeoastronomy, A:498 Aristarchus, A:566 Astrolabe, A:680 Bode's law, B:417 Brahe, Tycho, B:507 Computer (In engineering and the sciences), Cl:253 Constellation, Cl:307 with diagram Copernicus, Nicolaus, Ch339 Cosmology, Ci:372 Distance, D:202 Galaxy, G:10 with picture Galileo, G:13 with pictures Herschel [family], H:183 Horizon, H:277 Interferometer, 1:281 Jodrell Bank Observatory, J:122 Kepler, Johannes, K:231 Maffei galaxies, M:39 Magnitude, M:60 Messier, Charles, M:373 Moon, M:583 with pictures Nadir, N:2 National Optical Astronomy Obser-

vatories, N:36 National Radio Astronomy Observatory (NRAO), N:44 Nebula, N:64 with picture Nebular hypothesis, N:65 Newton, Sir Isaac, N:187 with pictures Observatory, 0:380 with pictures Opposition, 0:478 Orbit, 0:485 with diagram Parallax, P:168 with diagram Parsec, P:202 Planet, P:533 with pic and diagrams Planetarium, P:539 with picture Ptolemy, P:833 with picture Pulsar, P:852 Quasar, Q:9 Radar (In scientific research), R:57 with **Dicture** Radiotelescope, R:86 with pictures Red shift, R:174 with diagram Science, S:140; (The history of science) S:143 with picture

Sidereal time, S:410

Solar system, So:26 with diagram

Spectrometer, So:207 with diagram Star, So:279 with pictures Telescope, T:112 with pictures Time (Measuring time), T:256 Universe, U:265 Zenith, Z:491 Astrophysical lournal Hale, George Ellery, H:19 Astrophysicist Astronomy, A:685 Astrophysics, A:701 Astrophysics, A:701 Sun (Early sun science), So:420 Asturias, Miguel Angel [Guatemalan authorl, A:701 Latin American literature (The mid-1900's), L:96 Nobel Prizes (Literature), N:232 Asunción (Paraguay), A:702 Paraguay, P:161 with picture Aswan [Egypt], A:702 Aswan High Dam, A:702 with picture Dam (table), D:13 Egypt (Nile Valley and Delta), E:110; (Republic) E:117; (Progress and conflict) E:118 Lake Nasser, L:26 with map Nile, River, N:218 Suez Canal (History), So:386 Suez Crisis, So:386 Asylum [law], A:703 Asylum (psychology) At [symbol] Astatine, A:677 O'Brien, Flann, 0:380 Atacama Desert [Chile], A:703

Abnormal psychology (History), A:13 At Swim Two Birds (book by O'Brien)

South America picture on, So:88 Atahualpa (Peruvian ruler), A:703 Atalanta in Calydon (work by Swin-

burnel

Swinburne, Algernon Charles, So:490 Atatlirk, Kemal (Turkish political leader], A:703 with picture

Ankara, A:422 Ottoman Empire (The Empire ends),

O:521

Sèvres, Treaty of, S:283 Turkey (After World War I), T:464; (The republic of Turkey) T:464

with picture Atavism [genetics], A:704

Ataxia, A:704

Atcham

See Shrewsbury and Atcham **Atemiwaza**

Judo, J:159

Athanasius, Saint, A:704

Atharva-Veda Indian sacred text Vedas, V:320

Atheism, A:704 God (Ideas about God), G:225 Theism, T:211

God (Ideas about God), G:225 Religion (Belief in a deity), R:197

Atheist's Tragedy, The Iplay by Tour neur]

Tourneur, Cyril, T:313 Athena (Greek mythology), A:704 with picture Arachne, A:495

Greece, Ancient picture on, G:353 Medusa, M:323

Mythology picture on, M:751; (Greek divinities) M:757 with picture;

(table) M:758 Parthenon, P:204 with picture Pegasus, P:245

Perseus, P:291

Ulysses (Return to Ithaca), U:19 See also Minerva

Athens [Greece], A:705 with pictures and maps

Greece picture on, G:332 Ancient times Acropolis, A:26

Ancient times Areopagus, A:550 Ancient times Aristides, A:566 Ancient times Athena, A:704

Ancient times Athens picture on,

A:705; (The ancient city) A:707 Ancient times Ballot (History), B:66

Ancient times City (government), Cl:25 Ancient times City-state, Ci:38

Ancient times Democracy (Origins of democracy), D:103

Ancient times Education (Ancient Greek education), E:89

Ancient times Europe picture on, E:369

Ancient times Greece, Ancient, G:347: (Education) G:347; (Government) G:352; (The rivalry between Athens and Sparta) G:353 with

Ancient times Law (The influence of Ancient Greecel, L:113

Ancient times Oratory (Beginnings),

Ancient times Peloponnesian War, P:249

Ancient times Pericles, P:281

Ancient times Sculpture (As part of architecture), S:189 with picture Ancient times Solon, So:33

Ancient times Themistocles, T:212 Ancient times Women's movements (In ancient Greece), W:294

Ancient times World, History of the (The Greeks), W:338

Modern Athens Athens (The modern city), A:705

Atherectomy (surgical technique) Angioplasty, A:366

Atheroscierosis

Arteriosclerosis, A:605

Cholesterol (Cholesterol and heart disease), C:479

Diabetes (Complication), D:152 Heart (Coronary artery disease), H:104 Stroke (Causes), So:358

Atherton Tableland, A:709

Queensland (Eastern Basins and Ranges), Q:19 with picture Athlete Struggling with a Python

[sculpture by Leighton] Leighton, Lord, L:161

Athlete's foot, A:709

Itch. I:473 Ringworm, R:280

Skin (Infections), S:470

Athletics, A:710 with pictures

Athlone [Ireland], A:716 with picture Athlone, Earl of [British nobleman],

A:716

Athos, Mount

See Greece (Macedonia-Thrace): Religious life (The Eastern Orthodox Churches)

Athurvaveda [Indian sacred texts] Sanskrit literature, S:75

Athyr

See Hathor

Atiu [island, Pacific]

Cook Islands, Cl:332

Atlanta [U.S.A.], A:716 Georgia, G:103

Atlanta Constitution [book by Harris]

Harris, Joel Chandler, H:67

Atlantic bonito [fish] Bonito, B:450

Atlantic Charter, A:717

Churchill, Sir Winston (Meetings with Roosevelt), C:509

Roosevelt, Franklin Delano (Eve of war), R:389

United Nations (The founding of the UN), U:173

World War II (The Allies attack in Europe and Northern Africa). W:386

Atlantic City [U.S.A.], A:717 New Jersey, N:116, 117

Atlantic Coastal Plain

New York (Land), N:140 North Carolina, N:259

Pennsylvania (Land), P:263

United States (The coastal lowlands),

11:207

Atlantic cod

Fish picture on, F:161

Atlantic hagfish

Hagfish, H:7

Atlantic herring

Fish picture on, F:160

Atlantic Intracoastal Waterway, A:717 with picture

Atlantic mackerel

Fish picture on, F:161

Atlantic manta ray

Fish picture on, F:160 Atlantic menhaden

Fish picture on, F:161

Atlantic Ocean, A:718

See also list of Related Articles

Fishing industry (Atlantic Ocean fisheries), F:189 Ocean, 0:386

Atlantic Provinces [Canada], A:721 with pictures

Canada, C:71

Atlantic salmon

Fishing (Game fishing), F:185 Salmon (Kinds of salmon), S:53 with picture

Atlantic water

Arctic Ocean (Water masses), A:545

Atlantic wolf fish

Fish picture on, F:161

Atlantis [legendary continent]. A:722

Atlantis (space shuttle)

National Aeronautics and Space Administration picture on, N:30

Atlas-Agena (rocket)

Space exploration (Launch vehicles), So:132 with picture

Atlas [Greek mythology], A:723 with pic-

Atlas [maps], A:722 with picture Mercator, Gerardus, M:359 with pic-

Atlas frocketi

Space exploration (Launch vehicles), So:132

Atlas-Centaur rocket Rocket picture on, R:319

Atlas Mountains [Africa], A:723

Morocco (Land regions), M:614

Tunisia (Land), T:442

Átlati [weapon]

Aztec (Warfare), A:901

Indian, American (Early days), I:150 Sculpture (Indian sculpture of the

Americas), S:205

Atmophile

Geochemistry, G:86

Atmosphere, A:723

Air, A:182

Earth (Outside and inside the earth). E:19; (The earth's atmosphere)

Hydrosphere, H:408 Ionosphere, 1:328

Jupiter (Surface and atmosphere), J:171

Mars, M:222

Mercury (Surface and atmosphere). M:362

Moon (Atmosphere and weather), M:587

Ozone, 0:542

Planet (Atmosphere), P:536

Saturn (Surface and atmosphere),

S:101

Sky, S:476

Solar energy (How solar energy affects the earth). So:23 with diagram

Solar system (Planets), So:27

Space exploration (The beginning of space), So:130; (Living in space) So:135

Stratosphere, So:348 Troposphere, T:417

Venus (Surface and atmosphere), V:340

Weather (What makes up weather),

Atmosphere [unit of measure], A:723

Atmospheric aerosol

Aerosol, A:107

Atmospheric pressure

Air (weight and pressure), A:184 with diagrams

Atmosphere, A:723

Barometer, B:115: (Uses) B:116

Boiling point, B:423

Hiroshima, H:222

Nagasaki, N:4

Manhattan Project, M:155

Matter (Conservation of matter), M:264 Cyclone. Ci:510 New Mexico, N:119 Isobar, I:425 with diagram Nuclear energy (The development of Pauli, Wolfgang, P:220 Jupiter (Surface and atmosphere), 1:171 nuclear weapons), N:329 Rutherford, Ernest, R:505 Melting point, M:339 Nuclear weapon, N:335 Atomic weapon See Nuclear weapon Planet (Atmosphere), P:536 Oppenheimer, J. Robert, 0:478 Pressure, P:771 Penney, Lord, P:262 Atomic weight U-235, U:2 Atom, A:726 Tornado (The story of a tornado), United States, History of the (Allied Electrolysis (Laws of electrolysis), T:301 Vacuum, V:296 victory), U:259 Element, Chemical, (Periodic table of Venus (Surface and atmosphere), War. W:33 World War II, W:402 with picture the elements), E:198 Weather (Air pressure), W:111; (Devel-Molecule (Indivisible molecules), **Atomic Bomb Dome** opment of weather forecasting) Hiroshima, H:222 with pictures M:534 W:122 Atomic clock, A:730 Atomism, A:731 Atmospheric research **Atomic dipole** Atom (Development of the atomic the-Air., A:188 Magnetism (Magnetism in atoms), ory), A:728 Rocket, R:318 M:56 Democritus, D:105 Atoll [geology], A:723 with picture and Atomic Energy Commission [U.S.] Materialism, M:254 diagram Nuclear energy (The first peaceful Pre-Socratic philosophy (The teachings Coral (Coral reefs), Cl:348 uses), N:330 of Parmenides), P:770 Diego Garcia, D:168 Oppenheimer, J. Robert, 0:478 Atomization Indonesia (The Moluccas), 1:190 Atomic force microscope Powder metallurgy, P:730 Island, 1:423 with diagrams Scanning probe microscope, S:121 Atomizer, A:731 Atom, A:724 with pictures with picture Aton [Egyptian god] See also list of Related Articles Atomic mass unit (unit of measure) Akhenaton, A:221 Atomism, A:731 Atom (Atomic weight), A:726 Egypt, Ancient picture on, E:127; (The Baryon, B:122 Mole lunit of measurel, M:531 New Kingdom) E:128 Bohr, Niels, B:421 Atomic number Mythology (The Influence of Egyptian Chemistry (Fundamental ideas of Atom (The atomic number), A:725 mythology), M:755 Chemistry), C:366 Element, Chemical (The Periodic Tutankhamen, T:476 Democritus, D:105 Table), E:196 Atonal music Electricity (Kinds of electricity), E:166; Isotope, I:427 Classical music (The 1900's), Cl:62 (Light) E:170 with diagram Radioactivity (Properties of nuclei), Music (The elements of music), M:729 Electron, E:178 L87 Rawsthorne, Alan, R:147 Element, Chemical (Periodic table), Atomic particle Atonement, A:731 E:196 Atom picture on, A:728 Unitarians, U:38 Gas (How gases behave), G:58 Cosmic rays, Cl:370 Atonement, Day of Hahn, Otto, H:8 Lepton, L:184 See Yom Kippur Ion, I:325 with diagrams Linear accelerator, L:291 Atopic eczema Laser (The nature of atoms), L:72 with Muon, M:703 Skin (inflammation), S:470 diagrams Particle accelerator, P:205 with dia-Atria [anatomy] Magnetism (Magnetism in atoms), grams See Atrium M:56 Particle physics, P:206 Atria filling Matter (Structure of matter), M:264 Quark, Q:7 Heart (How the heart pumps blood), Mechanist philosophy, M:303 Spark chamber, So:199 H:103 with diagram Molecule, M:532 with diagrams Wilson cloud chamber, W:263 Atrial septal defect Nuclear energy (Atoms and nuclei). See also Subatomic particle Heart (Abnormal openings in the N:320 Atomic physics heart), H:108 Particle accelerator, P:205 Physics (What physicists study), P:473 Atrioventricular node Particle physics, P:206 Science (The physical sciences), \$:140 Heart (Regulating the heart rate), H:103 Physics (Atomic, molecular and elec-Atomic pile Atrioventricular valve lanatomy tron physics), P:473; (Uncovering Nuclear reactor, N:332 Heart (Valves), H:102 the secrets of the atom) P:478 Atomic reactor Atrium [anatomy] Quantum mechanics, Q:6 Nuclear reactor, N:332 Fish (Circulatory system), F:170 Radioactivity, R:87 Atomic structure Heart picture on, H:100; (Chambers) Rutherford, Ernest, R:505 Atom (The first descriptions of atomic H:102; (Heart terms) H:102 Science (Science in the early 1900's), structure), A:729 Tachycardia, T:4 S:149 Atomic submarine Atrium (Architecture), A:731 Transmutation of elements, T:344 See Submarine Architecture (Early Christian architec-Atom smasher Atomic theory ture), A:523 Particle accelerator, P:205 Atom (The birth of the modern atomic Rome, Ancient (Food, clothing, and Atomic bomb theory), A:728 shelter), R:373 with pictures Bomb picture on, B:434 Bohr, Niels, B:421 Bomb (Nuclear bombs), B:435 Chemistry (Beginnings), C:368; (Dal-See Concentration camp; Genocide; Einstein, Albert, E:130 ton's atomic theory C:370 Nuremberg trials; Torture; War Hahn, Otto, H:8 Dalton, John, D:11 crime

Einstein, Albert, E:130

table), E:196

Element, Chemical (The periodic

Atropine [drug]

Nightshade, N:217

Deadly nightshade, D:54 with picture

Atropos

Fates, F:35

Atta Troll, A Midsummer Night's

Dream [work by Heine]

Heine, Heinrich, H:135

Attaché (diplomat), A:731

Attachment [law], A:732

See also Debt: Garnishment

Attachment of debt Attachment, A:732

Attachment of earnings

Attachment, A:732

Attack helicopter

Helicopter (For military missions), H:138

Attack submarine

Navy (Ships and aircraft), N:59 Submarine, So:368 with picture Warship (Submarines), W:44

Attalids [people]

Pergamum, P:281

Attalus II Philadelphus [king of Per-

gamuml

Philadelphia (ancient Greece), P:362

Attar [perfume], A:732

Attention deficit disorder

Learning disabilities (Types), L:139

Attention deficit hyperactivity disorder (ADHD)

Hyperactivity, H:411

Learning disabilities, L:139

Attic Nights book by Gellius

Latin literature (Later Latin literature),

Attica (region, Greece)

Athens (History), A:707

Attila (king of the Huns), A:732 with map Goths. G:264

Hun. H:372

Attitude

Aerodynamics (Lift), A:71 with picture Ballet (Classical ballet technique), B:51 with pictures

Attlee, Clement Richard (British political leaderl, A:732

Labour Party (History), L:4

Potsdam Conference, P:721

United Kingdom (The welfare state), 11:152

Attorney, Power of

See Power of attorney

Attorney general

Australia, Legal system of, A:829 United Kingdom, Legal systems of the (Law officers in England and

Wales), U:155

Attraction

Magnetism (Attraction and repulsion), M:55 with picture

Attrition

Teeth (Enamel), T:92

Attucks, Crispus (American public figure]. A:733

See also Boston Massacre

Atwood, Margaret [Canadian poet], A:733

Au [symbol]

Gold, G:230

Aubergine, A:733 with picture Nightshade, N:217

Solanum. So:22

Aubrey, John (English author), A:734 Biography (The 1600's), B:301

Aubrietia, A:734

Auchincloss, Louis [American author], A:734

Auchinleck, Sir Claude John Eyre [British field marshal], A:734

Auckland [New Zealand], A:734 with pictures and map

New Zealand picture on, N:154

Auckland Harbour Bridge

Auckland picture on, A:737

Auckland Islands (New Zealand), A:738 Auction, A:738

Tobacco (Marketing tobacco), T:271 with picture

Auction market

Food (Marketing), F:300

Audagost |former city|

Ghana Empire, G:148

Auden, W. H. (English poet), A:738 with portrait

Audience

Pope (The daily life of the pope), P:675 Public speaking, P:842

Royal Family of the United Kingdom (The queen and Parliament), R:424

Audio devices

Other output devices, Cl:260

Audio engineer

Television (The control room), T:124 with picture

Audio frequency wave [physics] Radio (table), R:76; (Amplifiers) R:80

Audio surveillance

Telephone tapping, T:111

Audiologist

See Audiology

Audiology, A:738

Deafness (Detection of hearing problems), D:56

Audiometer (instrument)

Audiology, A:738

Deafness (Detection of hearing problems), D:56

Audion tube

De Forest, Lee, D:84

Vacuum tube (Development of the vacuum tube), V:299

Audio-visual materials, A:739 with picture

Audiphone

Hearing aid (history), H:97

Audit (business), A:741

Auditorium

Theatre, T:191 **Auditory arts**

Fine arts, F:110

Auditory canal

Ear (The outer ear) diagrams, E:7

Auditory nerve

Deafness (Types of hearing disorders), 0555

Ear (Parts of the ear), E:7 **Auditory ossicle**

Ear (Parts of the ear), E:8 **Auditory system**

Deafness (Birth defects), D:56

Audubon Society, National, A:742

Audubon, John James, A:741

Audubon, John James [American naturalistl, A:741 with picture

Audubon Society, National, A:742 Auer, Leopold [Hungarian violinist].

A:742 Augean stables [Greek and Roman my-

thologyl, A:742 Hercules (The twelve labours), H:163

Augenlicht, Das [music by Webern]

Webern, Anton, W:127 Auger [tool]

Drill (Wood drill), D:308

Auger mining

Coal (Surface mining), Cl:125

Augmented interval

Music (Harmony), M:730

Augmented Roman Alphabet Initial teaching alphabet, 1:234

Augrabies Falls (South Africa), A:742

Cape Province picture on, C:138 Northern Cape (Tourism), N:268

Orange River, 0:483

Augsburg [Germany], A:742

Augsburg Confession

Lutherans (Doctrine), L:420 Melanchthon, Philipp, M:329

Reformation (Development of the Reformation), R:181 with picture

Augsburg, Diet of [1530]

Reformation (Martin Luther), R:181

Augsburg, Peace of [1555]

Germany (The Reformation), G:132 Reformation (Martin Luther), R:181

Schmalkaldic League, 5:126 Thirty Years' War (Causes of the War),

Augur [Ancient Rome], A:742 See also Omen; Oracle

August, A:743 with pictures

Calendar (The Julian calendar), C:36 Julian calendar, J:161

Augustan Age [English history]

Anne, A;424

England, E:279

Poetry (Neoclassical poetry), P:615

Augustan Age [Roman Empire]

Age (Historic ages), A:155

Augustus, A:745

Classicism (Rome), Cl:65

Latin literature, L:99

Rome, Ancient (The height of the empire), R:381

Auguste clown

Clown, Ci:115

Augustine of Canterbury, Saint, A:745

England (The Germanic invasions), E:274

Predestination, P:741 Augustine, Saint (Christian philosopher

and theologianl, A:745

Ambrose, Saint, A:302

Kent (History), K:221

Autobiography, A:870

Ethics (Christian), E:336 Neoplatonism, N:74

Philosophy (Medieval philosophy),

P:424

earth), M:57

Magnetohydrodynamics, M:59

Aurora [Roman mythology], A:748 with

C:170 picture Augustinus (book by Jansen) Gold (table), G:231 Auschwitz [World War II], A:748 lansen, Cornelius, J:29 Great Barrier Reef, G:312 with pictures Concentration camp, Ci:272 Augustus [Roman emperor], A:745 with Mengele, Josef, M:347 picture and map Hockey (Hockey in Australia and New Auscultation Actium, Battle of, A:27 Zealand), H:238 Stethoscope, So:320 Aeneid, A:69 International trade (Why nations Ausonius [Roman author] Antony, Mark, A:466 trade), 1:297 Latin literature (Later periods), L:100 Caesar, C:12 Labour Day, L:2 Austen, Henry Haversham Godwin Galatia, G:10 Library (Australia and the Far East), [British explorer] Latin literature (The Augustan Age), K2, K:178 Manufacturing (In Australia and New Ovid, 0:526 Austen, Jane (English writer), A:748 Zealand), M:168 Novel (Great Britain), N:312 Post office (Ancient times), P:714 Marsupial, M:227 with pictures Austerlitz, Battle of, A:749 Praetorian Guard, P:735 National parks, N:38 Austin [U.S.A.], A:749 Rome. Ancient (Breakdown of the re-New South Wales, N:122 with pictures public). R:380: (The height of the Austin, Herbert (British businessman), and maps A:749 empire) R:381 Northern Territory, N:277 with pic-Rome (Other remains), R:368 Austin, Stephen Fuller (American piotures and maps Sculpture (Roman sculpture), S:208 neer], A:749 Pacific Ocean (Boundaries and size), Tiberius, T:236 Austral Islands [Pacific Ocean], A:749 Toga, T:274 with picture Austral, Florence | Australian dramatic P:14 Petroleum (Australasia), P:339 (Petrosingerl. A:749 Virgil (His life), V:401 Australasia leum industry) P:350 Auk, A:746 with picture Prehistoric people (The spread of set-Bird (The distribution of birds), B:319 Bird (Extinct birds), B:356 with picture Auld lang syne [Scottish song], A:747 (Endangered species), B:357 tlement), P:758 Aung San [Burmese political leader] Conservation, Ci:303 Qantas, Q:2 Petroleum (Where petroleum is Burma (British conquest and rule), Queensland, Q:13 with pictures and B:661; (World War II) B:661; (Indefound), P:337 maps pendence) B:661 Railway (Australia), R:105 See also Australia; New Guinea; New Aung San Suu Kyi, Daw, A:747 Zealand Sheep, \$:338; (table) \$:340 Australasian realm Silver (table), S:427 Burma (Recent developments), B:661 Bird (The distribution of birds), B:319 Solar energy picture on, So:26 Nobel Prizes (Peace), N:235 Australia, A:749 with pictures and Station, So:302 Aunt Family (Family relationships), F:20 Trade unions, T:328 maps Aunt's Story, The [book by White] Tree pictures on, T:387 Agriculture, A:166 White, Patrick, W:231 Anzac, A:468 with picture and map Tungsten (table), T:440 United Kingdom (The colonies), U:147, ANZUS, A:469 Aura Kirlian photography, K:289 (Decline of the empire) U:152 Australian Aborigines, A:834 Wheat, W:221; (table) W:222 Aurangabad (India) Aviation (Aircraft nationality marks). Wine (Wine production in Australia Maharashtra (Places to visit), M:66 AiB81 Aurangzeb [Mughal emperor], A:747 and New Zealand), W:274 Ballet (Ballet In Australia and New Zea-Wool (Wool growing in Australia and India, History of (The later Mughal emland), B:57 perors), I:110 with picture Banks, Sir Joseph, B:96 with portrait New Zealand), W:312 Maharashtra (Rise of the Marathas), Youth service (Youth services in Aus-Bird (Birds of Australia and New Zea-M:67 land), B:332 with pictures; (Endantralia), Y:468 Mughal Empire, M:683 gered species) B:357 See also list of Related Articles Aurelian [Roman emperor], A:747 Broken Hill Proprietary Company Ltd. Australia, Armed services of, A:777 Aurelius, Marcus (BHP), B:584 with pictures See Marcus Aurelius Bushfires, B:670 with picture See also list of Related articles Auricie Bushrangers, B:672 with picture Australia, Art and architecture of, Ear (Parts of the ear), E:7 Canberra, C:113 with pictures and A:781 with pictures Auriga [astronomy], A:747 maps See also list of Related articles Australia, Government of A:789 with Capeila, C:142 Christmas, C:491 Aurobindo, Sri [Indian writer] Civil defence, Ci:39 pictures India, Literature of (Indian romanti-Conservation (Australasia), Ch303 Government (The Australian federal cism), 1:128 Constitution, Cl:308 system), G:274 Aurochs [animals], A:747 Local government (Australia), L:346 Cook, James, Cl:328 with pictures and Aurora [meteorology], A:747 with pic-Parliament (Parliaments in other counmaps Cricket, Ci:425 with pictures tries), P:192 Air (The thermosphere), A:186 with di-Darling River, D:36 with picture Preferential voting, P:741 agram Diamond (Where natural diamonds See also list of Related articles Earth (The earth's magnetism), E:21 Australia, History of, A:794 with picare found), D:154 Finland (Climate), F:119 Dingo, D:174 with picture Light (Other sources of light), L:257 Dollar, D:249 See also list of Related articles Convicts in Australia, Ci:320 with picwith picture Droving, D:310 Magnetism (The magnetism of the Education (Education in Australia), E:85 tures and map

Film industry, F:105

Flag picture on, F:204

Girl Guides and Girl Scouts (Australia),

Dampier, William, D:18

Exploration (Exploring the Pacific),

E:425 with map; (Crossing Aus-

Federation of Australia, F:44 First Fleet, F:148 with map Gold rush, G:238 with picture Governor general (Governors general of Australia), G:278 Great Depression (The depression in Australia), G:319 Kelly, Ned, K:213 with picture Northern development in Australia, N:268 Penal colony, P:252 Pioneer life in Australia and New Zealand, P:509 with pictures Squatters in Australia, So:248 with pictures and map Tasman, Abel Janszoon, T:49 Transportation, T:362 White Australia policy, W:232 World War II (table: The Allies), W:381; (table: Military casualties) W:407 Australia, Legal system of, A:827 with picture See also list of Related articles Australia, Literature of, A:830 See also list of Related Articles Australia Felix (book by Richardson) Richardson, Henry Handel, R:268 Australia II [boat]. A:776 America's Cup. A:331 Bertrand, John, B:261 Bond, Alan, B:445 Australia-New Zealand Closer Economic Relations Trade Agreenumt Common market, Cl:221 Australian Aborigines, A:834 with pictures and maps Aranda, A:496 Australia, A:751 with picture Australia, Art and architecture of, Australia, History of, A:795 with pictures and map; (Society) A:824 Australoids, A:855 Bark painting, B:111 Boomerang, B:462 with diagram Bunyip, **B:647** Cook, James (Botany Bay), Ci:328 with picture Corroboree, Ci:365 with picture Dingo, D:174 Gilbert, Kevin, G:157 Macquarie, Lachlan (Aboriginal policy), M:23 Northern Territory (People), N:278; (History) N:284 Phillip, Arthur, P:418 Pointing the bone, P:619 Port Phillip Bay, P:694 Queensland, Q:25 Robinson, George Augustus, R:303 South Australia, So:114;(Later developments)So:115 Tasmania (History), T:61 Tasmanian Aborigines, T:63 with pic-Three Sisters, T:229 Victoria (History), V:364

tralia) E:426 with table

Western Australia (History), W:181 Witchetty grubs, W:283 Australian Alps Australia (Mountains), A:763 Australian and New Zealand Association for the Advancement of Science (ANZAAS), A:844 Australian Army Australia, Armed Services of, A:777 **Australian Beak** Butterfly picture on. B:685 Australian blackfish Blackfish, B:379 Australian bonito ifishl Bonito, B:450 Australian Boxing Federation Boxing (Boxing in Australia and New Zealand). B:498 **Australian Broadcasting Corporation** (ABC), A:844 Australian Broadcasting Tribunal Television (Commercial television). Australian Capital Territory (ACT), A:044 Canberra, C:113 Australian cattle dog, A:844 with pic-Australian coat of arms, A:844 Australian cockroach Cockroach, CI:142 Australian Colonies Government Act Australia, History of (Toward selfgovernment), A:804 Victoria (History), V:364 Australian Constitution, A:845 Australian copperhead Copperhead, Ci:344 with picture Australian crane Crane (Kinds), Cf:416 Australian Cricket Board of Control (ACR) Cricket (Administration), Cl:431 Australian Desert Gibson Desert G:156 Great Sandy Desert G:326 Great Victoria Desert G:329 Australian flag, A:845 with picture Australian Flying Corps (AFC), A:845 Australian Imperial Force (AIF) Australia, History of (World War I 1914-1918), A:817 Australian Inland Mission, A:845 Australian kelpie, A:846 Australian Labor Party (ALP), A:846 See also list of Related Articles Australian literature See Australia, Literature of Australian mistletoe Mistletoe, M:515 **Australian National Park and Wildlife** Service Conservation (Australasia), Ci:303 **Australian Natives Association** Australia, History of (Nationalism), A:813

Federation of Australia (Federation be-

comes a popular movement), F:47

Australian Patriotic Association Wentworth, William Charles, W:153 Australian raven Raven. R:146 Australian Rules football, A:847 with pictures See also list of Related Articles Australia (Recreation), A:759 with pic-Australian Security Intelligence Organization (ASIO), A:855 Australian Surf Life-Saving Championships Surf lifesaving (Surf carnivals), So:435 Australian terrier [dog], A:855 with picture Australian warbler Warbler, W:38 Australind [Australia], A:855 Australite iminerall, A:855 Australoids, A:855 Australopithecine Evolution (The fossil record), E:409 Prehistoric people (Prehuman ancestors), P:751 with picture Australopithecus, A:855 Broom, Robert, B:590 Gauteng (History), G:65 Human being (Prehuman ancestors), Prehistoric people (Humanlike ancestors), P:756 Ramapithecus, R:129 Australopithecus africanus Dart, Raymond, D:37 South Africa, History of (Early times), Austria, A:856 with pictures and maps See also list of Related Articles Austerlitz, Battle of, A:749 Aviation (Aircraft nationality marks), A:881 Christmas picture on, C:489 Decorations, medals, and orders, D:75 Europe (table), E:359 Flag, F:199; picture on F:207 German language, G:105 German literature, G:106 Germany (The Revolution of 1848), G:133; (East Germany) G:138 Habsburg, House of, H:3 Hitler, Adolf (The road to war), H:231 Italy (Spanish and Austrian rule), I:468 Poland (The partitions), P:631 Revolution of 1848, R:247 Russo-Turkish wars, R:503 Saint-Germain, Treaty of, S:33 Seven Weeks' War, S:279 Seven Years' War, S:282 Slovenia (History), S:493 Succession Wars (The War of the Austrian Succession). So:378 Thirty Years' War, T:221 Tyrol, T:491 with maps Vienna, V:372 with picture World War II (table: Military casualties), W:407

Austria-Hungary, A:868

Austria with map, A:866, A:867

Bosnia-Herzegovina (History), B:475 Czechoslovakia, Cl:522; (Habsburg rule) Ci:523

Francis loseph, F:421

Germany (The unification of Germany), G:133

Hungary, H:382

Serbia (History), S:268

Vienna, V:374 with pictures

World War I, W:362; (The rise of nationalism) W:362; (table: The military alliances) W:364

World War I (Beginning of the war), W:365: (The fighting ends) W:373

Austrialia del Espiritu Santo

Australia, History of (First sightings), A:797

Ouiros, Pedro Fernandes de, Q:31 Austrian Succession, War of the 1740-17481

Germany (The rise of Prussia), G:132 Maria Theresa, M:204

Succession wars, So:378

Austro-Prussian War [1866] Seven Weeks' War, S:279

Austro-Sardinian War Italy (Italy united), 1:469

Author

Copyright, Ci:345 Publishing (Publishing a book), P:844 Writing, W:421

Authoritarianism [government], A:869 See also list of Related Articles

Authority and the Individual (book by Russelll

Russell, Bertrand, R:460

Authority

Power [social sciences] (Forms of power), P:731 Religion (Chief characteristics of reli-

gion), R:197 Autism [disorder], A:869

Mental Illness (Childhood mental disorders), M:353

Tinbergen, Nikolaas, T:260

Autistic child See Autism

Autistic Children: New Hope for a

Cure (book by Tinbergen) Tinbergen, Nikolaas, T:260

Autobiography, A:870

Literature (Forms of Literature), L:313

Autobiography of Alice B. Tokias, The [book by Stein] Stein, Gertrude, So:312

Autobiography of an Amateur Naturalist (book by Burgess)

Burgess, Thornton Waldo, B:650 Autobiography [book by Williams]

Williams, William Carlos, W:258

Autobiography (book by Wright) Wright, Frank Lloyd, W:417

Autobiography [play by Alfleri] Alfieri, Vittorio, A:249

Autocracy (government), A:870 Autocrat of the Breakfast-Table, The

[book by Holmes] Essay, E:330

Holmes, Oliver Wendell, H:247

Autopiro, A:870 with picture V/STOL. V:428

Autograft

Skin grafting, S:473 Tissue transplant (Types of transplants), T:263

Autograph, A:871 with picture Autohypnosis

Hypnotism (Dangers of hypnotism), H:415

Autoignition

Petrol (Petrol octane ratings), P:329

Autoimmunity

Disease (Immunological diseases),

D:194

Immune system, 1:38

Automatic [gun]

Handgun (Types of handgun), H:42 with diagram

Rifle (Kinds of rifles), R:274

Automatic defrosting

Refrigeration (Defrosting), R:187

Automatic frequency control (AFC), A:872

Automatic nalier

Nail [fastener], N:5

Automatic pilot, A:872

Aeroplane (Engineering improvements), A:83; (The controls and instruments) A:93 **Сугосоре, G:445**

Servomechanism, S:273

Sperry, Elmer Ambrose, So:214

Automatic pilot

Ship (Navigating a ship), S:382 with picture

Automatic transmission

Car (The transmission), C:156 with dia-

Transmission (How an automatic transmission works), T:343 with diagrams

Automatic valve

Valve, V:304 with diagram

Automation, A:872 with pictures See also list of Related Articles Invention (The 1900's), 1:319 Technology (Technological unemploy-

ment). T:87 Automobile Association (AA), A:876

Royal Automobile Club (RAC), R:416 Automobile

See Car

Autonomic nervous system Allergy (Emotional factors), A:274

Biofeedback, B:299

Emotion (Early theories about emotion), E:230

Heart, H:99

Human body, H:349 Hypothalamus, H:417

Muscle (Smooth muscles), M:715

Nervous system, N:81 Autonomous Kirgiz Soviet Socialist Republic

Kazakhstan (History), K:206

Autopsy, A:876 Pathology, P:215

Autos sacramentale [religious play]

Calderón de la Barca, Pedro, C:33 Drama, D:293

Autotroph [botany]

Plant (How plants grow), P:560

Autotrophic bacteria [bacteriology] Bacteria (How bacteria obtain food).

Autry, Gene American singer), A:876 Autumn (season), A:876

Season, **S:229**

Autumn [book by Ba Jin]

Balin, B:2 Autumn [book by Kennedy]

Kennedy, Margaret, K:218

Autumn Garden, The Iplay by Hellman Hellman, Lillian, H:145

Autumn journal [poem by MacNeice] MacNeice, Louis, M:22

Autumnal equinox

Equinox, E:316 with diagram Harvest moon, H:72

Season, S:229

Auvergne [France], A:876 Auxiliary verb (grammar)

Grammar (Function words), G:288

Tense, T:151 Verb, V:343

Auxin, A:876

Hormone (Plant hormones), H:279 Plant (Factors affecting plant growth), P:562 with pictures

Tropism, T:417

Ava

Kava, K:203

Avalanche, A:877

"Avalon" (song)

Jolson, Al, J:138 Avant-garde, A:877

Avarair, Battle of [451]

Armenia (History), A:580 Avars [people]

Czech Republic (Early days), Ci:520 Siovenia (History), S:494

Avebury (England), A:877 with picture Wiltshire (Places to visit), W:265

Avebury, Baron

See Lubbock, John; Lubbock, Eric Reginald

Aventine Hill

Rome (The city today), R:364 with maps

Average [mathematics], A:877

Mean, M:292 Median, M:305

Mode. M:526

Statistics (Probability), So:303

Averroës (Arabian philosopher), A:877 Avery, Oswald T. American genetist

Cell (The 1900's), C:304 AVES

Bird (table: A classification of birds), D:350

Avesta

Persia, Ancient (Religion), P:293 Zoroastrianism, Z:507

Aviation, A:878 with pictures See also list of Related Articles Disaster (Accidents), D:188

Aviation medicine

Philosophy (Philosophy in the 1900's),

Aerospace medicine, A:107 Medicine (Preventive medicine), M:312 Avicenna [Arab doctor], A:887 Geology (The Romans), G:92 Medicine (The Middle Ages), M:314 Science (The Middle Ages), S:145 Aviemore (Scotland) Highland Region (Places to visit), H:199 Avignon [France], A:887 France (Growth of royal power), F:413 Avignon papacy Pope (The troubles of the papacy), P:677 Roman Catholic Church (The Avignon papacy), R:341 Ávila Camacho, Manuel (Mexican soldier], A:888 Aviz, House of [Portuguese history] Portugal (Founding the Portuguese nation), P:705 Avoca Peak (mountain) Eastern Cape (Land), E:45 Avocado [fruit], A:888 with picture Avocet, A:888 with picture Bird picture on, B:323 Avogadro constant Mole (unit of measure), M:531 Avogadro, Amedeo [Italian physicist], Chemistry (Development of physical chemistry), C:371 Gas (Avogadro's law), C:59 Avogadro's law Avogadro, Amedeo, A:886 Chemistry (Development of physical chemistry), C:371 Gas. G:59 Avogadro's number Gas (Avogadro's law), G:59 Avoirdupois, A:889 Avoirdupois pound Pound, P:728 Avon [England], A:889 with picture See also list of Related Articles Avon iriver, England), A:892 Avon [river], A:892 Avon, Earl of Eden, Anthony, E:75 Avoset See Avocet

Awake and Sing! [play by Odets]

Bangladesh (East Pakistan), B:88

Decorations, medals and orders, D:73

Film industry (Festivals and awards),

Odets, Clifford, 0:410

players), A:853

Caldecott Medal, C:32

Newbery Medal, N:176

Nobel Prizes, N:225

A:316

Awami League

Award

Axe, A:893 Tomahawk, T:290 with pictures Avohood Prehistoric people (The end of prehistoric times), P:760 Axel's Castle [work by Wilson] Wilson, Edmund, W:261 Axial-flow compressor Jet propulsion (Turbojet), 1:103 with diagram Axial-flow pump Pump (Dynamic pumps), P:853 Axial skeleton Mammal (Skeleton), M:127 Skeleton, S:460 Axiom, A:893 Age of Reason (The worship of reason), A:156 Geometry (Axiomatic organization), G:95; (Types of geometry) G:97 Axion (physics) Dark matter, D:35 Axis [Alliance] Germany (Nazi Germany), G:136 World War II (Table: The Axis), W:381 Axis [botany] Germination, G:141 Axis [mathematics] Geometry (Analytic geometry), G:97 with diagrams Parabola, P:158 with diagram Axis deer (animal) Animal picture on, A:389 Deer (Asian and European deer), D:82 Axis of rotation Earth (How the earth moves), E:18 Gyroscope (Gyroscopic inertia), G:445 with diagram Axis of symmetry Crystal (Classifying crystals), Ch469 Axie Gear, G:67 Wheel and axle, W:226 Axminster rugs and carpets Rugs and carpets, R:450 Axoloti See Salamander Aw Boon Haw (Chinese businessmanl, Axon Brain (Brain cells), B:512 Nervous system (Parts of a neuron), American literature (Drama), A:318 N:82; (Conduction along the axon) NAME OF Awakening, The [book by Chopin] Axum American literature (Women writers), See Aksum Ayatollah [title] Khomeini, Ruhollah, K:241 Ayatollah Ruhollah Khomeini, fran (Revolution and the Islamic Re-Australian Rules football (Awards for public), 1:339 with picture Khomeini, Ruhollah, K:241 Ayckbourn, Alan (British playwright),

Aye-aye lanimall, A:894 with picture

Aver, Sir Alfred Jules (British philoso-

Primate diagram on, P:777

pherl, A:894

Pulitzer, Joseph (His beguests), P:852

Assett

Barley, B:112

Ayers Rock (Australia), A:894 with pic-Aylesbury Vale [England], A:895 Aylward, Gladys [English missionary], Aymara Indians La Paz. L:61 Ayodhya (legendary place) Ramayana, R:129 Ayot St. Lawrence [England] Hertfordshire (Places to visit), H:185 Ayr [Australia], A:895 Ayr [Scotland] Strathclyde Region (Places to visit), So:347 Ayrshire (cattle) Cattle (Dairy cattle), C:274 with picture Dairying (Dairy cattle), D:6 Ayrshire [Scotland], A:895 Aytoun, William Edmondstoune [Scottish poet], A:895 Ayub Khan, Mohammad [Pakistani political leader), A:895 Avurveda [medicine] Medicine (China and India), M:313 Ayutthaya [Thailand] Thailand (History), T:184 Ayyubid dynasty Calro (History), C:20 Egypt (Muslim rule), E:115 Azalea [plant], A:895 with picture **Azanian People's Liberation Army** (APLA) Pan-Africanist Congress of Azania, P:111 Azerbaljan, A:896 Commonwealth of Independent States, Ci:222 Flag picture on, F:204 Azerballanis [people] Armenia (People), A:579; (History) A:580 Azerbaijan (People), A:896 Azeri language Azerbaijan (People), A:896 Azimuth, A:898 Azimuth circle Navigation (Piloting), N:52 Azimuthal projection Map, M:189 with diagram Azian Shah (king of Malaysia), A:898 Royal families (Malaysla), R:421 Azoic or developed dve Dye (Kinds of dyes), D:362 Azores (islands), A:898 with map Europe (table), £:359 Azov, Sea of [Georgia], A:898 Black Sea, B:376 with map AZT [drug] AIDS (Treatments), A:180 Medicine (The medical revolution), M:317 Virus (Virus diseases in human beings). V:406 Aztec, A:898 with pictures and map

See also list of Related Articles

Indian, American (Empires and states).

1:145 with picture Indian, American (Indians of Middle America), I:160 Latin America (The conquest of the Indians). L:89 with picture Maize (History), M:75 Sculpture (As a record of history), 5:186 Aztec civilization Latin America (The first inhabitants), **Aztec manuscript** Manuscript picture on, M:171 Aztec mythology Mythology (American Indian mythology), M:762 Azul (poetry by Dario) Dario, Rubén, D:34 Latin-American literature (Modernism), 1396 Атиге Heraldry (Expansion), H:160 Azure-winged magpie Magple, M:61 Azurite (mineral), A:902 Mineral picture on, M:485 B [letter], B:1 with pictures B [symbol] Boron, B:471 B cell Blood (Protecting against disease), B:396; (Formation of new blood components) B:398 Thymus, T:234 B horizon [geology] Soil diagram on, So:21 B lymphocytes [B cells] Immune system (Parts of the immune system), 1:38; (The immune response) 1:39 B-quark [physics] Upsilon particle, U:271 **B-Sky-B** icommunicationsl England (Way of life), E:266 Ba (symbol) Barium, **B:110** Ba Iln [Chinese writer], B:2 Baal [Hebrew god], B:2 Baal [play by Brecht] Brecht, Bertolt, B:551 Baal Shem Tov [Jewish teacher], B:2 Hasidism, H:74 Jews (Eastern European religious movements), J:115 Baalbek [Lebanon] Lebanon (Ancient times), L:147 Baalism [religion] Ahab. A:177 Baan-e-Daraa [work by Igbal] India, Literature of (Indian romanticism), 1:128

Baath Party [political party]

Hussein, Saddam, H:390 Iraq (National government), 1:342 Syria (National government), So:520 Báb [franian religious leader] Baháu'lláh, B:31 Babangida, Ibrahim Badamosi [Nigerian political leader] Nigeria (Nigeria today), N:214 Babar [Mughal emperor], B:2 Akbar, A:220 India, History of (Foundation of the Mughal Empire), 1:109 Mughal Empire, M:683 Babbage, Charles (British mathematician], B:2 Computer (Early punched-card computing devices), Cl:264 Mathematics (In the 1800's), M:260 Babbitt metal, B:2 Bearing (Plain bearings), B:173 with picture Lead (Uses), L:124 Babbitt [book by Lewis] American literature (Satirists), A:318 Lewis, Sinclair, L:199 Babbler (bird), B:2 with picture Babel, Isaak Emmanullovich |Soviet [ewish author], B:3 Babel, Tower of See Tower of Babel Babergh [local government district, England), B:3 Babes in Arms imusical comedyl Hart, Lorenz, H:69 Babes in Toyland (work by Herbert) Herbert, Victor, H:162 Babi Yar [Ukraine], B:3 "Babi Yar" [poem by Yevtushenko] Babi Yar, B:3 Yevtushenko, Yevgeny, Y:452 **Bables' slippers** Birdsfoot trefoil, B:361 Babington, Anthony lEnglish Catholic plotter), B:3 Babirusa, B:3 Baboon, B:3 with picture Animal (Group care), A:408 Babur See Babar Baby, B:4 with pictures See also list of Related Articles Cerebral palsy (Prevention), C:328 Developmental psychology, D:144 Embryo, E:228 Family, F:19 Growth (Growth rate), G:388 Heart (Birth defects), H:108 Incubator (Incubators for babies), 1:53 with picture Infant mortality, 1:228 Nutrition, N:362 Paediatrics, P:19 Pregnancy, P:741 Premature birth, P:761 Reproduction, Human (Birth), R:229 with diagrams; picture on R:225 Respiratory distress syndrome, R:241 Sex (Marriage and the family), \$:291 Sleep (Human sleep patterns), S:484

Baby doll Doll (Wax dolls), D:246; (China dolls) D:246 with picture **Baby teeth** Teeth (Deciduous teeth), T:90 with pic Babylon, B:11 with pictures and man Alexander the Great (Victory in India). Architecture (Mesopotamian architecture), A:517 with picture Communication picture on, Cl:230 Numeration systems (The Babylonian numeral system), N:349 Babylonia (ancient civilization), B:13 with pictures and map Architecture (Mesopotamian architecture), A:517 Arithmetic (History), A:573 Army (Ancient armies), A:592 Asia (The Tigris-Euphrates Valley), A:657 Astrology (History), A:681 Astronomy (History), A:697 Calendar (History), C:35 Chaldea, C:337 Clothing (Ancient times), Cl:98 Exploration (The first known explorers), E:417 Fraction (History), F:389 Geometry (Earliest forms of geometry), Hammurabi, H:32 Jerusalem (Ancient times), J:93 Law (Early developments in the East), Map (Ancient maps), M:190 with plc-Mathematics (Early civilization), M:256 Numeration systems (The Babylonian numeral system), N:349 Palestine (Invasions and conquests), P:103 Phoenicia (Foreign control), P:429 Science (Early civilizations), S:143 **Babylonian Captivity** Pope (The troubles of the papacy), Reformation (Religious causes), R:180 Babylonian clay tablet Book picture on, B:454 Babylonian Exile Chronicles, Book of, C:498 Ezekiel, Book of, E:446 Isalah, Book of, 1:411 with picture Jews (Foreign domination), J:113 Joel, Book of, J:123 Babylonian Gemara Talmud, T:18 **Baccarat glass** Glass (Types of art glass), G:198 Bacchae (play by Euripides) Euripides, E:354 Bacchus (Roman mythology), B:15 Dionysus, D:183 Faun, F:37

Sudden infant death syndrome.

Teeth (Deciduous teeth), T:90

So:385

Afghanistan (Early invasions), A:114

Bactria

Bactrian camel

Mythology (table), M:758 Triumph, T:411 Bach, Carl Philipp Emanuel [German composerl Bach. B:15 Bach, Johann Christian (German composerl Bach, B:15 Bach, Johann Sebastian (German composer Bach, B:16 with portrait Buxtehude, Dietrich, B:693 Canon, C:131 Cantata, C:131 Classical music (The baroque period), CI:60 Concerto, Ci:272 Counterpoint, Cl:392 Couperin, François, Ci:397 Mendelssohn, Felix, M:346 Organ (History), 0:495 Vivaldi, Antonio, V:413 Bach, Maria Barbara [wife of Johann Sebastian Bachl Bach, Johann Sebastian (His life), B:16 **Bachelor** herd Impala, I:45 Bachelor's button Cornflower, Ci:358 Bachelor's Children, A [book by Porter] Porter, Hal, P:696 Bachelor's degree Degree, University and college, D:87 Bachman, Richard See King, Stephen Bacillary dysentery Dysentery (Causes and symptoms), D:366 Bacilli [bacteriology] Bacteria (The structure of bacteria), B:21 with pictures Bacillus anthracis Anthrax, A:450 Bacteriology (History), B:23 Swimming (The basic strokes), So:484 with diagram

Back [anatomy], B:17 Back crawi **Back lighting** Photography, P:446 with picture Back swimmer Water bug, W:84 "Back to Africa" movement Garvey, Marcus, G:47 Backache, B:17 Backbone Spine, So:229 Vertebrate, V:350 Backdrop Ballet (Scenery), B:53

Backgammon (game), B:17 with picture

Space exploration (Leaving the space-

craft), So:138 with picture

Saw (Handsaws), S:116 with picture

Woodworking (Cutting), W:307

Backpack

Backpacking

Backsaw

Hiking, **H:202**

Backstroke Swimming (The basic strokes), So:484 with diagram Backward Glance, A [book by Whartoni Wharton, Edith, W:214 Bacolod (Philippines), B:18 Bacon Ifood), B:18 Bacon, Francis [British artist], B:19 Painting (Postwar European painting), P:07 Bacon, Francis [English philosopher]. B:18 with portrait Age of Reason (Influence of the Age of Reason), A:157 Essay (Formal essays), E:330 Philosophy (Modern philosophy), P-424 Science fiction (Beginnings), S:151 Science (The scientific revolution). S:146 Shakespeare, William (The anti-Stratfordians), S:303 Bacon, Nathaniel (American colonial leaderl, B:19 Bacon, Roger [English philosopher], 6:19 Aeroplane (Early experiments and ideas), A:76 Ornithopter, 0:505 Physics (The Middle Ages), P:474 Scholasticism (History), S:127 Bacon and eggs Birdsfoot trefoil, B:361 Bacteria, B:19 with pictures See also list of Related Articles Aniline, A:375 Animal (When animals appeared on the earth), A:411 Bacteriology (Studying bacteria), B:22 Cell (Bacteria cells), C:296 Disease, D:189; (Bacterial diseases) D:190 Drug (Sources of drugs), D:315 Heredity (Hereditary disorders), H:169 Inflammation, 1:229 Leprosy, L:180 with pictures Magnetism picture on, M:57 Toxin. T:320 **Bacterial carditis** Heart (Inflammatory heart disease), H:109 Bacteriai disease Bacteriology (Controlling bacterial diseases), B:22 Disease (Bacterial diseases), D:191 Bacterial spore Bacteria (Where bacteria live), B:21 **Bacterial** wilt

cessing), T:292

See also list of Related Articles

Science (Other branches), S:141

Bacteriological warfare

fare, C:364

Koch, Robert, K:312

Bacteriology, B:22

Camel, (People and camels), C:52 with picture: diagram on C:54 Camel's-hair cloth, C:54 **Bactrian State** Tajikistan (History), T:14 **Bad Aachen** See Aachen Bad Sister [film] Davis, Bette, D:46 **Badbury Rings** Hill forts picture on, H:204 Baddesley Clinton [England] Warwickshire (Places to visit), W:49 Baden-Baden (Germany), B:23 Black Forest, B:374 Baden-Powell, Agnes (British public figure) Baden-Powell, Lord, B:23 Baden-Powell, Lord British public figure], B:23 Girl Guides and Girl Scouts, G:171 Scouting (History), S:183 Baden-Powell, Olave Girl Guides and Girl Scouts (History), G:171 Baden-Powell, Robert Stephenson Smyth See Baden-Powell, Lord Badenoch and Strathspey (Scotland), Bader, Sir Douglas (British pilot), B:23 Badger baiting (sport) Badger, B:23 Badger [animal], B:23 with pictures Animal picture on, A:387 Badlands [geology], B:24 Badminton (England) Avon picture on. A:891 Badminton isportl, B:24 with pictures and diagram Badminton [sport] Olympic Games table on, 0:437 **Badminton House** Avon (Places to visit), A:892 Badoglio, Pietro (Italian political leader) Italo-Ethiopian War, 1:447 Baeda Bede. B:181 Baekeland, Leo Hendrik (American chemistl. B:25 Bakelite, B:33 Invention (The 1900's), I:319 Plastics (The invention of Bakelite), Baer, Karl Ernest von German biologistl, B:25 Alfalfa (Diseases and pests), A:246 Baeyer, Adolph von [German chemist] Tomato (Growing, harvesting, and pro-Indigo, I:179 Nobel Prizes (Chemistry), N:228 Baez, Joan [American singer], B:25 with Chemical-biological-radiological warportrait Baffin Island, B:26 with map

Baffin, William [English navigator], B:25

Ellesmere Island, E:216

Bag ammunition

Exploration (table), E:427

Baikal, Lake

picture

Russia (Rivers and lakes), R:478 with

Alum, A:289 Bail [law], B:32 Ammunition (Separate loading ammu-Soda, So:15 **Bail bond** nition), A:336 **Baking** soda Bonding, B:445 Bag wig Bicarbonate of soda, B:280 Bail, Murray |Australian writer| Hairdressing (The 1700's), H:13 Soda, So:15 Australia, Literature of (Modern short Baganda [people] Raklava Ifoodl stories), A:832 Ganda, G:27 Arabs (Food and drink), A:491 Bailey, David British photographer), Bagasse Turkey (Food and drink), T:458 Grass (Sugar cane), G:304 R-33 West Bank (People), W:157 Bailey, Nathan (English publisher) Sugar (Uses of sugar), So:390 Baku [city, Azerbaijan], B:34 Dictionary (Early English dictionaries), Baghdad [Iraq], B:26 with picture Azerbaijan, A:896 with picture D:166 Asia (City life), A:632 Bakunin, Mikhail Bailey, William J. [American engineer] Iraq, I:341 with picture; pictures on Anarchism, A:350 Solar energy (History), So:25 Bala [Wales] Balliff World, History of the (The Islamic Gwynedd (Places to visit), G:439 Sheriff and bailiff, S:355 world), W:344 Bala-Rama [idol] Bailiwick Baghdad Pact [1955] Channel Islands (Government), C:343 lagannath, J:9 Iraq (The 1950's), 1:346 Balaguer, Joaquin [Dominican political Bagpipe Imusical instrumentl, B:27 with Balls leader Cricket, Ci:425 picture and diagram Dominican Republic (History), D:261 Baily, Francis (British astronomer) Scotland (Arts), S:162 Balaklava, Battle of, B:34 Baily's beads, B:33 Baguio [Philippines], B:27 Nightingale, Florence (Service in Cri-Baily's beads [astronomy], B:33 **Baguirmi** Bain, Andrew (Scottish engineer), B:33 mea), N:216 Chad (History), C:333 Balalaika Imusical instrumenti, B:34 Baines, Thomas (British-born artist), Bahadur, Jung (Nepalese political with picture 3:33 Balance (equilibrium) Baining [people] Nepal (History), N:77 Ear (The sense of balance), E:11 Sculpture (Pacific Islands sculpture), Bahá'í Faith (religion) Gravity, Centre of, G:309 Bahá'u'lláh, B:31 Posture, P:717 Baird, John Logle (Scottish engineer), Bahá'ís. B:27 Space exploration (Microgravity), Iran (Religion), 1:335 So:135 Communication (The development of Islam (Sects), 1:417 Balance [weighing device], B:34 picture modern communication), Ci:234 Bahá'ís (members of religious group), on B:35 Television (History), T:133 Scale, Weighing, S:119 Bahamas, B:28 with pictures and map Balance of nature, B:35 with picture Fishing (Fishing equipment), F:183 CARICOM,, C:199 See also list of Related Articles **Balt fishing** Flag picture on, F:202 Bird (In nature), B:317 Fishing industry (How fish are caught), Turks and Caicos islands (History), Ecology (Changes in ecosystems), E:58 F:190 T:469 Mammal (Mammals in the balance of **Bait insecticide** West Indies, W:163; map on W:164 Insecticide (Spraying and dusting), nature), M:127 Bahamonde, Francisco Franco (Span-Balance of payments, B:36 ish political leaderl Devaluation, D:144 Baja California Norte [Mexico], B:33 Franco, Francisco (His early life), F:423 Economics (World finance), W:64; Baju [clothing] Bahasa Indonesia (language) Malaysia (Clothing), M:86 table on E:65 Malay-Indonesian language, M:81 Energy supply (Political and economic Bakelite (plastics), B:33 Bahasa Malaysia (Malaysian language) effects), E:251 Baekeland, Leo Hendrik, B:25 Malay-Indonesian language, M:81 International Monetary Fund, 1:293 Invention (The 1900's), I:319 Malaysia (Languages), M:83 International trade (Financing interna-Plastics (The invention of Bakelite), Bahá'u'lláh [Persian religious leader], tional trade), 1:298 B:27 Money (The balance of payments), Baker, Dame janet [British singer], Bahá'is, B:28 Bahia M:556 Balance of power, B:37 Salvador, S:59 Baker, Sir Herbert (South African ar-International relations (From the 1500's **Bahia** wood chitectl, B:33 Brazilwood, B:547 Baker, Sir Samuel (British explorer), to the 1900's), I:295 Peace (From the 1400's to the 1700's), Bahina (musical instrument) B:33 with portrait India, Dance and music of (Musical In-Baker's yeast P:224 Yeast (How yeast is used), Y:442; (How Balance of trade struments). 1:94 Bahrain, B:31 with picture and map yeast is made) Y:443 Japan (Foreign trade), J:54 Bakery Tariff (History), T:45 Asia (City life), A:632 Flag picture on, F:204 Austria picture on, A:861 **Balance sheet** Accountancy (Financial reports), A:20 Bread (How yeast bread is made), Manama, M:142 Bai. Mira (indian poet) B:548 with picture **Balance spring** Clock (Spring-driven clocks), Cl:86 India, Literature of (Women poets of Conveyor belt (Uses), Ci:319 Watch (Mechanical watches), W:66 Bakewell, Robert (British farmer), B:34 bhakti), 1:126 Baiga [game] Baking **Balance** wheel Watch (Mechanical watches), W:66 Kazakhstan (People), K:204 Bread, B:547

Cooking, Cl:334

Pastry, P:212 Baking powder, B:34 Balance Isculpture by Ng Eng Tengl

Sculpture picture on, S:218

Balanced aquarium

Pet (Kinds of pets), P:319 with picture **Balanced diet**

Diet (Normal diet), D:169

Balanchine, George [Russian-born choreographerl, B:37

Ballet (Ballet in the United States). B:57; (Ballet today) B:58

Baiard, Antoine J. [French chemist] Bromine, B:585

Balboa, Vasco Núñez de (Spanish explorerl, B:37

Exploration (Exploring the New World), E:421 Pacific Ocean (Exploration), P:15

Panama Canal (Early efforts), P:124 Panama (The Spanish colonial period),

Pizarro, Francisco (First expeditions), P:530

Balche (drink)

Maya (Food, clothing and shelter), MI27B

Balchen, Bernt laviation pioneerl, B:38 Byrd, Richard Evelyn, B:694

Exploration (Polar exploration), E:427 Balchin, Nigel [British writer], B:38

Balcon, Sir Michael British film directorl. B:38

Bald cypress, B:38 Cypress, Cl:512

Bald eagle

Eagle (Kinds of eagles), E:4 with picture

Baid Soprano, The [play by tonesco] Drama (Theatre of the absurd), D:300 Ionesco, Eugène, 1:327

Balder [Norse mythology], B:38 Baldness, B:39 with picture

Hair (Disorders of the hair and scalp), H:12

Baldpate

Wigeon, W:245

Baldwin of Flanders

Crusades (The Fourth Crusade), Cl:464 Baldwin, James [American writer], B:39 with portrait

American literature (Fiction and other prose), A:320; (Drama) A:321

Baldwin, Matthias William (American inventorl, B:39

Baldwin, Stanley British prime minister], B:40

United Kingdom, History of the (The rise of the Labour Party), U:150 Bale

Hay, H:89 Rubber (Manufacturing rubber products), R:434

Balearic Islands, B:40 Spain (Land), So:176

Baleen

Animal (Filtering mechanisms), A:398 with picture

Baleen whale

Animal (Filtering mechanisms), A:398 with picture

Whale pictures on, W:204; (Kinds of baleen whales) W:206 with diagram; (Group life) W:210

Balfour Declaration [1917], B:40

Balfour, Arthur James, B:40 Israel (Beginnings of a new state), 1:438 Jerusalem (British rule), 1:93 lews (The Zionist movement), 1:115 fordan (The Palestinian conflict). 1:144

Palestine (World War I and the Balfour

Declaration), P:104

South Africa, History of (The Pact government), So:84

Weizmann, Chaim, W:142

Zionism (The Balfour Declaration), 7:499

Balfour, Arthur james (British statesmanl, **B:40**

Bali [Indonesia], B:41 Asia (The arts), A:637

Bird picture on, B:318

Dancing picture on, D:24

Indonesia (The Lesser Sunda Islands), 6187

Wayang, W:107

Ball-Hinduism (religion) Indonesia (Religion), I:184

Bali tiger

Tiger (The rare tiger), T:245

Baline, Israel

See Berlin, Irving

Balintawak (clothing) Philippines (Clothing), P:375

Balkan Mountains

Bulgaria (Land), B:636

Balkan Wars

Balkans, B:43 with map Bulgaria (The Balkan wars), B:638 Macedonia (History), M:9

Serbia (History), S:268

Balkans, B:43 with picture and maps See also list of Related Articles

Ball-and-cage valve

Heart (Valvular disease), H:108 with picture

Ball-and-socket joint

Hip, H:217 Joint, J:136 with pictures

Shoulder, S:398

Ball bearing

Bearing (Rolling-contact bearings), B:173 with picture

Rall

See the separate articles on ball games listed in the Related Articles of the Sports article

Ball lightning

Lightning (Forms of lightning), L:273 Reit mill

Cement and concrete (Crushing and grinding), C:313

Copper (Milling), Cl:342 with diagram

Ball, Hugo

Dadaism, D:2

Ball, John [English priest], B:45

Ballad, B:45

Poetry, P:610

Spanish literature (The 1400's), So:193 Ballad of Kynd Kittok, The lpoem by

Dunbarl

Dunbar, William, D:348 Ballad of Reading Gaol, The Ipoem by Wildel

Reading, R:149

Wilde, Oscar, W:249

Ballad of the Sad Café, The book by McCullersl

American literature (Fiction and other prosel, A:320

McCullers, Carson, M:288

Ballade, B:45

Bailadur, Edouard (French prime minister], B:45

France (Recent developments), F:418 Ballantyne, R. M. (Scottish writer), B:45 Ballarat (Australia), B:46 with picture Ballost

Airship (Control), A:218

Balloon (Zero-pressure balloon), B:61 Ship (table), S:363; (The chief parts of a ship) S:383

Submarine, So:368

Ballast (electrical)

Fluorescent lamp, F:274

Bailerina

Ballet, B:47 with pictures

Ballet, B:47 with pictures See also list of Related Articles

Dancing (Kinds of dancing), D:22

Dancing (The rise of romanticism), D:27

Dancing (The 1600's and 1700's), D:26 Dolin, Sir Anton, D:242

Petipa, Marius, P:326 Petit, Roland, P:326

Ballet Comique de la Reine

Ballet (The beginnings), B:55 with pic-

Dancing (The Renalssance), D:26 Ballet d'action

Dancing (The 1600's and 1700's), D:26

Ballet dancer

Ballet (The ideal ballet dancer), B:49 with pictures

Ballet Rambert

Ballet (Ballet in Europe), B:57 Rambert, Dame Marie, R:131

Ballets Russes [dance company]

Ballet (Russian ballet), B:56; (Ballet in Europe) B:57

Dancing (Dancing since 1900), D:28 Diaghilev, Sergel Pavlovich, D:152

Balli Kombetar [political group]

Albania (History), A:230

Balliol, John

Edward I, E:93

Kings and queens of Britain and Ireland (Rulers of Scotland, 1093-1371), K:265

Ballistic missile, N:57

Guided missile (Ballistic missiles),

Ballistic Missile Early Warning Sys-

Radar (In the military), R:55 with diagram

Ballistic missile submarine

Navy (Ships and aircraft), N:59 Submarine (Ballistic missile submarines), So:370 with picture Warship (Submarines), W:44 with pic-

Ballistics tures Ballistics, B:59 Ballonet Airship (How airships fly), A:217 Balloon, B:60 with pictures See also list of Related Articles Air (The study of air), A:188 with picture Helium (Uses), H:143 Montgolfier brothers, M:578 Piccard, Jean, P:486 Transportation (Air transportation), T:349 **Balloon barrage** Balloon (Balloons in war), B:64 with picture Ballooning Spider (Spiderlings), So:226 Ballot, B:66 Election, E:138 Ballpoint pen Ink (Writing inks), 1:235 Pen, P:250 with picture **Ballroom dancing** Dancing (Kinds of dancing), D:22 Ballymena (Northern Ireland), B:66 Ballymoney (Northern Ireland), B:66 Balm, B:66 Baim of Gliead, B:67 Poplar, P:681 Balmoral [castle, Scotland] B:67 **Balmoral Castle (Scotland)** Balmoral B:67 Grampian Region (Places to visit), C:289 Balsa, B:67 with pictures Balsam [resin], B:67 Balsam fir, B:68 with picture Resin. R:238 Raisam Mecca See Balm of Gilead **Balsam of Peru** Balsam, B:67 Balsam of Tolú Balsam, B:67 **Balsam** popiar Poplar, P:681 with picture Balsam, Garden [plant], B:67 with pic-Balsham, Hugo de (bishop of Elyl Cambridge University, C:48 Balthasar [biblical figure] Magi, M:44 Balthazar (book by Durrell) Durrell, Lawrence, D:356 Baitic Exchange [London], B:68 **Baltic Lakes Region** Poland (Land and climate), P:628 Baltic Mercantile and Shipping Exchange See Baltic Exchange Baltic Sea, B:68 with map Baltic States, B:69 Baltimore [U.S.A.], B:69 Baltimore oriole, B:70 Baltimore, Lord, B:69

Benedict Leonard Calvert, B:70

Cecilius Calvert (with portrait), B:69 Charles Calvert (1637-1715), B:70

Charles Calvert (1699-1751), B:70 Frederick Calvert, B:70 George Calvert, B:69 Baluchari (weaving) West Bengal (Local crafts), W:198 Baluchis [people] Pakistan (Cultural groups and lanquages). P:93 Baluchistan (province, Pakistan) Pakistan (The Baluchistan Plateau), P:95 with map Baluchitherium (land mammal) Andrews, Roy Chapman, A:363 Baluster stem Glass (The Middle Ages), G:196 Balzac, Honoré de [French writer], French literature (Romantic fiction), F:448 Bam i Dunya (region, Asia) Pamirs, P:111 Bamako [Mali], B:70 Mali, M:113; (People) M:114 with picture and map Bambara (people) Mali (People), M:114 Bamboo, B:70 with picture Africa picture on, A:141 Forest (Bamboo forests), F:349 Grass (Kinds of grasses), G:302 Panda, P:128 Bamburgh Castle |England) Northumberland (Places to visit), N:288 Ban Ghardai Police (Ireland), P:641 Ban on Love, The lopera by Wagnerl Wagner, Richard, W:3 Banana, B:71 with pictures Saint Lucia (Economy), S:40; picture on S:39 Banana republic Honduras (Independence), H:263 Bananagult, B:73 Romania (Land regions), R:354 Banawe (Philippines), B:73 Banbara [people] Mauritania (People), M:268 Banbridge, B:73 Banbury, B:73 Banbury machine [preliminary opera-Tyre (How tyres are made), T:489 Bancroft, George IU.S. historianl, B:73 Band (music), B:74 with picture See also list of Related Articles Band [radio] Radio (How radio programmes are received), R:79 Band [sociology] Indian, American (Bands), 1:145 Tasmanian Aborigines (Traditional life). T:63 **Banda** Islands Indonesia (table: Islands), 1:187 Banda Sea Pacific Ocean (Coastline and islands),

Banda, Hastings Kamuzu [Malawi po-

litical leaderl, B:75 with portrait Malawi (History), M:80 President (Unlimited presidency), E766 Bandage, B:75 See also First aid; Tourniquet Bandage compress Bandage, B:75 **Bandama River** Ivory Coast (The land), 1:475 Bandar Seri Begawan (Brunei) Brunei, B:599 Bandaranaike, Sirimavo [Sri Lankan political leader), B:75 with portrait Sri Lanka (History), So:258 Banded Iguana Iguana, 1:30 Banderilla Bullfighting picture on, B:640 Banderillero Bullfighting picture on, B:640 Bandicoot, B:76 with picture Animal (Introduction of new species), A:413 Marsupial (Kinds of marsupials), M:228 Bandllor Top (History of tops), T:298 Bandit, B:76 See also list of Related Articles Bandung IIndonesial, B:76 with picture Bandy (game) Norway (Recreation), N:295 Banff and Buchan (Scotland), B:77 Banff (Canada), B:77 Rocky Mountains picture on, R:328 Banff National Park [Canadal, B:77 with picture Banffshire, B:78 Bangalore [India], B:78 with picture Bangers and mash [food] England (Food and drink), E:267 Bangkok [Thailand], B:79 with pictures Thailand, T:178 Bangladesh, B:81 with pictures and See also list of Related Articles Aviation (Aircraft nationality marks), A:881 Disaster (Natural disasters), D:187 Flag picture on, F:204 West Bengal (Partition and independence), W:161 Bangor [Northern Ireland] See North Down and Ulster Bangor [Wales] Gwynedd (Places to visit), G:439 See also Arfon Bangui (Central African Republic), B⁹⁰ Bangweulu Lake, L:20 Lake Bangweulu, L:20 Banian See Banyan tree Banjarmasin (Indonesia), B:90 Banjo, B:90 Music (Plucked stringed instruments) M:728 with pictures Banjo Lesson, The Ipainting by Tannel Tanner, Henry Ossawa, T:29 with plo

ture

Limbo, L:278 L419 Mormons, M:608 Bannerstone Sculpture (Indian sculpture of the Americas), S:205 F-816 Bannister, Sir Roger (British athletel, B:97 with picture Landy, John, L:46

Bannockburn, Battle of, B:97 with picture Barbour, John, B:107

England (The beginnings of Parliament), E:275 Scotland, History of (The War for Inde-

pendence), S:169

Banns of marriage

Marriage (Laws concerning marriage), M:218 Pelham, Henry, P:247

Banquet, The [poem by Dante] Dante Alighieri (His works), D:31

Banquet of Officers of the Civic Guard of Saint George at Haarlem, 1616 [painting by Hals] Hals, Frans, H:26

Banqueting House (London) Architecture (Later Renaissance archi-

tecture), A:527 Jones, Inigo, J:139 with picture Banshee [Irish folklore], B:98 Fairy (What fairles look like), F:9

Banting, Sir Frederick Grant (Canadian doctor], B:98

Best, Charles Herbert, B:262 Insulin (Diabetes), 1:271

Macleod, John James Rickard, M:21 Banto faros [geography]

Gambia (Land), G:22 Bantu [people], B:98

Bantam [zoology], B:98

Africa (Black African languages), A:123 Cameroon (History), C:60

Malawi (People), M:79 Ruanda-Urundi, R:428

Swahili, So:453

Zambia (People), Z:488 Bantu Self-Government Act | South Africal

South Africa, History of (Apartheid), 50:65

Banyan tree, B:98 with picture India picture on, E71

Bao Dai [emperor of Vietnam] Indochina (World War II), 1:181 Ngo Dinh Diem, N:189

Vietnam (japanese control), V:380; (The Indochina War) V:380; (The

division of Vietnam) V:381 Baobab, B:99 with pictures

Africa picture on, A:141 Tree picture on, T:387 Baptism, B:99 with picture

Baptists, B:100 Bath (Religious bathing), B:150 Jesus Christ picture on, J:97 John the Baptist, Saint, J:131 with pic-

Luther, Martin (Reformation leader),

Pentecostal churches, P:267 Protestantism (Belief in sacraments),

Religion picture on, R:200

Roman Catholic Church (Baptism), Baptism in Kansas [painting by Curry]

Curry, John Steuart, Ci:504 Baptists [religious group], B:100 Bar at the Folies Bergère | painting by

Manet, Edouard, M:152 with picture

Bar [law]

Inns of Court, 1:237 Lawyer, L:123

United Kingdom, Legal systems of the (The legal profession), U:156

Bar [music] Music (Indicating time values), M:732 Bar [steelmaking]

Iron and steel (Bars), 1:397 Rar lunit of measurel Air (Weight and pressure), A:184 Barometer, B:115

See also Pascal, Blaise

Bar code

Bar coding B;100 Laser (Scanning), L:70; picture on L:69

Bar coding, B:100 with picture Post office (Sorting), P:712

Bar graph Graph. G:299

Bar-headed goose Bird picture on, B:316 Bar mitzvah, B:100

Confirmation, Ci:277 Judaism (Special occasions), J:156

Rite of passage, R:288 Barabbas (Biblical figure), B:101

Baraka, Amiri [American author], B:101 with portrait

American literature (Poetry), A:319; (Drama) A:321

Barancoids [people]

Barbados (History), B:103 Barassi, Ron Australian Rules foot-

ballerl, B:101 Australian Rules football picture on,

A:854

Barb

Bee (Sting), B:186 Feather (Kinds and parts of feathers), F:41 with diagram

Barbados aloe Aloe, A:281 with picture

Barbados, B:101 with picture and map Bridgetown, B:570

CARICOM, C:199 Flag picture on, F:202

West indies, W:163 picture on W:164

Barbara Frietchie (poem by Whittier) Frietchie, Barbara, F:460

Barbarian, B:104 Greece, Ancient, G:347

Middle Ages (The Germanic invasions), M:445; (Barbarian Europe) M:446

Theodoric, T:213 Vandals, V:308

World, History of the (Medieval Europe), W:342

Barbarossa [Barbary corsair], B:104 Algeria (Ottoman rule), A:265 Pirate (Pirates of the Mediterranean),

Barbarossa (Holy Roman emperor)

Frederick I. F:428

Barbary ape, B:104 with picture **Barbary Coast**

Barbary States, B:105

Barbary pirate

Pirate (Pirates of the Mediterranean)

See also Barbary States

Barbary Shore [book by Mailer] Mailer, Norman, M:69

Barbary States [North African history], B:105 with map

Pirate (Pirates of the Mediterranean), P:520

Barbecue, B:105

Cooking (Methods of cooking), Cl:333

Barbed wire, B:105 Barbei

Barber Catfish, C:259 Barber, B:105 Hairdressing, H:12 See also Razor Surgery (History), So:439 Barber of Seville, The lopera by Ros-Opera, 0:467 with picture Rossini, Gioacchino Antonio, R:404 Barber of Seville, The play by Beaumarchaisl Beaumarchais, Pierre Augustin Caron de. B:175 French literature (The Age of Reason), F:448 Barber, Samuel [American composer], B:106 Barberry iplantl, B:106 with picture May apple, M:276 Oregon grape, 0:492 Barber's itch Itch. 1:473 Barbershop quartet singing, B:106 Barbet, B:106 with picture Barbier, jules (French librettist) Opera (Faust), 0:470 Barbirolli, Sir John (British conductor), B:107 Barbiturate [drug], B:107 Depressant, D:123 Drug abuse (Abuse of legal drugs), D:320; (Table) D:322 Drug (The drug revolution), D:318 Poison (Kinds of poisons), P:620 Thiopentone sodium, T:219 Barbizon School (art), B:107 with pic-Inness, George, I:236 Miller, Jean François, M:474 Painting (Realism), P:71 Barbour, John (Scottish poet), B:108 Scottish literature (1300-1500), S:176 Barbuda See Antiqua and Barbuda

Feather (Kinds and parts of feathers), F:41 with diagram Barcarole Imusici, B:108

Barcelona [Spain], B:108 with picture See also Hamilcar Barca

Barcroft, Boake [Australian writer] Australia, Literature of (The Middle Perlod), A:831

Bard [minstrel], B:108 Homer (Homer's poems), H:254; (The

Homeric question today) H:255 Irish literature (Early Irish literature), 1:381 Minstrel, M:502

Scotland (Arts), S:162 Wales (Way of life), W:12

Bard, Philip [American physiologist] Emotion (Early theories about emotion), E:230

Bardd Cwsc, Y [book by Wynne] Welsh literature (Later literature),

Bardeen, John [American physicist], B:109

Electricity (Electrons and electricity), F-172

Nobel Prizes (Physics), N:227 Superconductivity, So:427 Transistor (History), T:341

Bare-faced curassow Curassow, Ci:500 with picture

Bareback bronc riding Rodeo, R:329

Barenboim, Daniel (Israeli conductor), B:109 with portrait

Barents Island (island, Arctic) Svalbard, So:452

Barents Sea [Arctic], B:109 Barents, Willem (Dutch navigator),

Barge (boat), B:109 with picture Flatboat, F:221 with picture Inland waterway, 1:235 Ship (Dry bulk carriers), S:379 Transportation (Water transportation), T:348; (Freight transportation)

T:358 with picture Barge dog Schipperke, S:125

FE-109

Bargello Needlepoint picture on, N:67

Bari [Italy], B:109

Baring-Gould, Sabine (Anglican clergymanl. B:109

Barisan Mountains

Indonesia (Sumatra), 1:187 Barite

Barium, B:110 Crystal (Orthorhombic system), Cl:470 with picture

Barkto River Borneo (The land and its resources), n-acq

Baritone [music], B:109 Opera (The singers), 0:458 Singing (Voice classification), S:454 Barlum [element], B:110

Element, Chemical (Periodic table),

E:196 Nuclear energy (Wastes and waste dis-

posal), N:327 **Barlum carbonate**

Barium, B:110 **Barium** chloride Barium, B:110

Barium ferrite

Barium. **B:110** Barium nitrate

> Barium, B:110 Saltpetre, S:58

Barium oxide Barium, B:110

Saltpetre, S:58 **Barium sulphate** Barium. **B:110**

Barium test (medicine) Barium, B:110

X rays (In medicine), X:429 **Barium titanate**

Barium, B:110 Bark beetle

> Dutch elm disease, D:358 Forestry (Diseases and pests), F:359

Bark [botany], B:110 with picture See also list of Related Articles

Bark cloth

Sculpture (Pacific Islands sculpture). 5:204

Bark grafting

Grafting (Kinds of grafting), G:282 with picture

Bark painting, B:111

Australia, Art and architecture of (Aboriginal arts), A:781

Barking and Dagenham (England), 10:111

Barking deer

Deer (Asian and European deer), D:82 Barkla, Charles

Nobel Prizes (table: Nobel Prizes for Physics-1917), N:226 Barkiv Tableland, B:111

Northern Territory (Land), N:279 Queensland, Q:20

Barlach, Ernst Heinrich [German sculptor), B:111

Barley, B:112 with pictures Alcoholic beverage (Beer), A:237 Brewing, B:555

Grain, G:285 Grass. G:301 Malt. M:120

Smut, S:502 **Barley** malt

Alcoholic beverage (Beer), A:237

Barlow's disease Scurvy, S:220

Rat. R:141

Barm [yeast] Yeast (How yeast is made), Y:443

Barn, B:113 Barn dance

Dancing (Folk dancing), D:23 Barn owl

Owl (Kinds of owls), O:529 with pic-

ture Barn rat

Barnabas (Biblical figure), B:113 Cyprus (History), Ci:514 Mark, Saint, M:212

Paul, Saint (Missionary career), P:219

Barnabites (religious group) Roman Catholic Church (The Counter

Reformation), R:342 Barnaby Rudge book by Dickensl

Dickens, Charles (The first phase), D:160

Barnacle (shellfish), B:113 with pictures

Crustacean, Cl:465 Larva, L:66

Barnacle goose

Brent goose, B:553

Goose (Kinds of geese), G:254

Barnard, Christiaan Neethling | South African surgeon), B:114

Heart (The first heart transplants),

Medicine (The medical revolution),

M:317 Barnard, Edward Emerson [American

astronomerl, B:114 Barnard, George Grey (sculptor)

Sculpture (American sculpture), S:214 Barnardo, Thomas John British medical missionaryl, B:114 Barnard's Star

Fixed star, F:197 Star (Star motions), So:282

Barnes, Sidney Francis (British crick-

eterl, B:114 Barnes, Thomas (British journalist), Pitta

Barnet (England), B:114 Barnet, Battle of [1471]

Henry VI, H:152

Barnett, William [English inventor] Petrol engine (Development of the petrol engine), P:334

Barnhart, Clarence Lewis (American lexicographerl, B:114

Barnsley (England), B:114 Barnstorming

Aeropiane (The golden age), A:80 Barnum, P. T. [American showman],

B:114 with portrait Circus (History), Ci:13 Lind, Jenny, L:288 Baroda [city]

Gujarat (Places to visit), G:422

Barograph Barometer (Aneroid barometer), B:116

Barometer, B:115 with pictures Air (Weight and pressure), A:184

Altimeter, A:289 Hydraulics (Use of hydrostatic princi-

ples), H:398

See also Isobar

Torricelli, Evangelista, T:305 Weather (Observation stations), W:118;

Development of weather forecasting) W:122

Baron [title], B:116

Peer of the realm (Degrees of the peerage), P:243

Baron Munchausen's Narrative (book) Munchausen, Baron, M:700

Baron Pierre de Coubertin (French ed-

Olympic Games (The modern games), 0:435

Baroness [title]

Baron, B:116 Lady, L:12

Nobility (In Great Britain), N:236

Baronet [title] Baron, B:116

Barong

Dancing (Oriental dancing), D:24 Barong tagalog [clothing]

Philippines (Clothing), P:375 Barons' War (English history)

England (Struggle for power), E:275 Hereford and Worcester (History),

United Kingdom, History of the (The law), U:132 with picture

Baroque [art], B:116

Architecture, A:527 with picture Austria (Arts), A:860

Bach, Johann Sebastian, B:16 Bernini, Gianlorenzo, B:259

Classical music (The Baroque period), Ci:60

Europe (Art since the Renaissance), E:369

France (Arts), F:402

German literature (Baroque literature), G:100

Italian literature (The baroque period and the Age of Reason), 1:445 Italy (Arts), I:456 with picture Latin America (Architecture), L:84 Opera (Baroque opera), 0:463 Painting (The 1600's and 1700's), P:62 Rococo, R:328 Spanish literature (The 1600's), So:194 Barossa Deutsch [language]

Barossa Valley, B:117

Barossa Valley (Australia), B:117 with Barquisimeto [Venezuela], B:117

Barr, Y. M. (British researcher) Epstein-Barr virus, E:314

Barrack-Room Ballads book by Kip-

Kipling, Rudyard (His works), K:286

Barracouta, B:118

Barracuda, B:118 with picture

Barrage balloon

Balloon (Balloons in war), B:64 United Kingdom, History of the, picture on. U:151

Rarramundi, B:118 with picture Fish picture on, F:159

Barramundi rock cod Barramundi, B:118

Barras, Vicomte de lFrench political leader

Josephine, J:148

Napoleon I (The "whiff of grapeshot"),

Barratt-Boyes, Sir Brian New Zealand surgeon), B:118

Barrault, Jean-Louis [French actor], PH 110

Barre [ballet]

Ballet (Ballet classes), 8:50 with pic-

Barre, Mohamed Siad (Somalian military leader Somalia (History), So:36

Barred antshrike

Bird picture on, B:330

Barrel [container], B:118 with picture

Barrel (gun)

Artillery (Parts of a gun), A:613 Firearm (Mechanism), F:137 Handgun (Parts of a handgun), #1:44 Rifle (The parts of a rifle), R:274

Barrel [unit of measure] Barrel, **B:118**

Petroleum (table), P:336

Barrel cactus

Cactus, C:10 with picture Barrel organ

Hand organ, H:39 Barrel racing

Rodeo, R:330 with picture Barrel vault larchitecturel

Vault, V:320

Barrens

Plant (Nutrient deficiencies), P:567

Barrett, Elizabeth

See Browning, Elizabeth Barrett

Barrie, Sir James Matthew (Scottish author], B:119 with portrait

Drama (English drama), D:298 Fairles (Fairles in literature), F:11 Peter Pan, P:325 with picture Scotland (Arts), 5:162

Scottish literature (1800-1900), S:176

Barrier beach Beach, B:164

Barrier island

Island, 1:423 with diagram Lagoon, L:15

Barrier reef

See Great Barrier Reef

Barrington, George (Australian emancipist], B:119

Australia, Literature of (Early prose),

A:830 larrios

> Bolivia (Way of life), B:426 Buenos Aires (The city), B:620

Barrios, Justo Rufino (president of Guatemalal. B:119

Barrister

Australia, Legal system of, A:829 Lawyer, L:123

United Kingdom, Legal systems of the (The legal profession), U:156

Barron Gorge [Australia], B:119 Barron, Jim [Australian boxer]

Boxing (Boxing in Australia and New Zealand), B:498

Barrow [river, Ireland], B:119

Barrow-in-Furness [England], B:119 Barrow Island [Australia], B:119 Barrowdale (ship)

First Fleet, F:148

Barrows (English history), B:119 Sutton Hoo, So:452 with picture Barry [Wales]

Glamorgan (Places to visit), G:180

Barry, Philip [American dramatist], B:120

Barry, Sir Charles (British architect), B:120

Architecture (The Gothic Revival), A:531

Westminster, Palace of, W:195

Barry, Sir Redmond [Australian lawyerl, B:120

Barrymore, Ethel (American actress) Barrymore, B:120 with picture

Barrymore, Georgianna Drew [American actressl

Ваггутоге, **В:120**

Barrymore, John [American actor] Barrymore, B:120 with picture

Barrymore, Lionel [American actor] Barrymore, B:120 with picture

Barrymore, Maurice [American actor] Barrymore, B:120

"Barsetshire Novels" (books by Troilope) Trollope, Anthony, T:412

Barter, B:120

Egypt, Ancient (Work of the people),

Money (How money developed), M:54II

Trade (The use of money), T:325 Trading post, T:333

Barth, John [American author], B:120 American literature (Fiction and other prose), A:320

Barth, Karl (Swiss theologian), B:121 Barthelme, Donald [American writer] American literature (Fiction and other prose), A:320

Bartholdi, Frédéric Auguste lFrench sculptor! B:121

Statue of Liberty (History), So:305 with

Bartholomew, Saint (apostle), B:121 **Bartlett** pear

Pear (Varieties), P:232

Bartlett, John (American publisher),

Bart, ók, Béla [Hungarian composer], B:121 with portrait Classical music (The 1900's), Ci:62 Opera (The search for new forms),

0:466 Barton, Clara (American nurse), B:122 Barton, George E. [American architect] Occupational therapy (History), O:385

Barton, Otis

Diving, Underwater (History), D:209 Barton, Sir Edmund (Australian political leader], B:122 with portrait

Australia, History of (Building a nation (1901-1960)), A:815

Federation of Australia, F:46 with portrait; (Federation becomes a popular movement) F:47

Bartram, John [American botanist], B:122

Colonial life in America (Science), CI:183

Baruch [Bible] Bible (The Apocrypha), B:275

Barya saltpetre Saltpetre, S:58

Barvcentre

Earth (The earth and its moon), E:18

Barye, Antoine Louis [French sculptor],

Minotaur picture on, M:502

Baryon [physics], B:122 Hadron, H:4

Meson, M:370

Baryshnikov, Mikhail (Russian ballet dancer], B:122 with picture

Barytes

Barlum, B:110

Barzun, Jacques [American educator], B:123

Bas mitzvah See Bat mitzvah

Bas-relief

Assyria pictures on, A:675, A:676 Drama picture on, D:287 Relief (Low relief), R:194 with picture

Basal cell Skin (Epidermis), S:469 Basal cell carcinoma [disorder] Epithelioma, E:313

Basal cell epithelioma Skin (Tumours), S:470

Basal ganglia

Brain (The work of the brain), B:514 Lesch-Nyhan Syndrome, L:184

Basal metabolic rate

See also Spirometer Metabolism, M:373

Basal nuclei

Brain (The work of the brain), B:514

Basal reader [textbook]

Reading, R:152

Reading (The developmental method), R:152

Basalt, B:123

Giant's Causeway, G:152 with picture Igneous rock, I:28

Moon (What the moon is made of), M:586 with picture

Ocean (How the sea floor was formed), 0:398

Rock, R:307; picture on R:308

Sand, 5:69 **Basaitic glass**

Sand, S:69

Basarwa [people]

Botswana (People), B:482

Basch, Samuel Siegfried von (Viennese doctor

Heart (Invention of new medical instruments), H:111

Bascule bridge

Bridge (Drawbridges), B:564 with picture

Base [chemistry], B:123

Hydroxide, H:409

Litmus, L:332

Neutralization, N:104

Nucleic acid, N:341

See also Alkali; Caustic; pH

Base [electronics]

Electronics (Solid-state components),

Transistor (How transistors work),

T:340 with diagrams Base [geometry]

Cylinder, Cl:511 with diagram Triangle (Properties and relationships

of triangles), T:397 Base [mathematics]

Arithmetic, A:570

Logarithms, L:360

Numeration system, N:344

Power, P:731

Base metal

Alloy, A:277

Base pairs (genetics)

Genetic engineering (How genes are isolated), G:80 with diagrams Heredity (The structure of DNA), H:170

Nucleic acid, N:341

Base runner

Baseball, B:129 Base running

Baseball, B:128 with picture

Base word (language)

Spelling (Learning to spell), So:211

Baseball, B:124 with pictures

See also list of Related Articles Dallas, D:10

DiMaggio, Joe, D:173

Latin America (Recreation), L:82 United States, History of the (The

Gilded Age), U:254

Baseburner

Cooker, Cl:333 with picture

Basel (Switzerland), B:132

Basenii, B:132

Dog (picture: Hounds), D:229

BASIC (computer language)

Basic chemical

Chemistry [The chemical industry],

Computer (Using programming languages), Cl:262

Basic dye

Dye (Kinds of dyes), D:362

Basic English, B:132

Basic oxygen process (BOP)

Iron and steel, 1:392 with picture Oxygen (Other uses of oxygen), O:538

Basic research

Research (Kinds of research), R:235 with picture

Basic seven

See Nutrition (Basic food groups)

Basic wage

Higgins, Henry Bournes, H:195

Basle, Count liazz musiciani, B:132 with portrait

jazz picture on, J:73

Basil, [herb], B:132 with picture

Basil I (Byzantine emperor)

Byzantine Empire (Invasion and conquest), B:701

Basil II [Byzantine emperori

Bulgaria (The first Bulgarian kingdom),

Byzantine Empire (Invasion and conquest), B:701

Basil, Saint, B:132

Monasticism (Christian monasticism), M:544

Religious life (The Roman Catholic Church), R:208

Basilar membrane

Ear (The cochlea), E:9

Basildon (district, England), B:132

Essex (Local government), E:332 Basilica (architecture), B:132 with ple

Cathedral (Architectural history), C260

Basilisk (ship)

Phillip, Arthur, P:416 Basin and Range Region

Texas (Land), T:167 Basin (geography), B:132

Basingstoke and Deane llocal govern

ment district, Englandl, B:133 Baskerville, John (English printer),

B:133

Book (The 1600's and 1700's), B:457 Basket making, B:133 with pictures Country crafts (Basket making), Cl391

Wicker, W:242

Basket of Discipline

B:149 with portrait

Animal (Camouflage), A:401

Protective coloration, P:813 with pic-

tion), A:802

Basse-taille [art]

Bass and Flinders, B:142

Bass, Sam [American bandit], B:142

Basuto [people] Basutoland Bat and trap Flying fox, F:281 Sonar, So:39 Bat-eared fox Bat mitzvah, B:149 Rite of passage, R:288 See also Bar mitzvah Bass (singing) Bataan Death March Opera (The singers), 0:458 World War II (Early Japanese victories), Singing (Voice classification), S:454 Bass drum Bataan Peninsula, B:149 with map Drum [musical instrument], D:324 Bass Rock [Scotland], B:144 Batak (people) Indonesia (Shelter), I:185 Bass Strait | Australia |, B:144 Bass, George: B:142 Batavia [Indonesia] Indonesia (A Dutch empire), 1:198 Bass and Flinders (Other voyages), Jakarta, J:12; (History) J:15 with picture B:143 with map Flinders, Matthew, F:227 Batavia [ship], B:149 Pelsaert, François, P:249 Bassé-Terre [Guadeloupe], B:144 Batavian Republic [Dutch history] Bass, George [British explorer], B:142 Netherlands (The 1700's), N:99 with portrait Australia, History of (Maritime explora-Batch bread

Enamel (Decorative enamelling tech-Bates, H. E. [British author], B:149 niques), E:234 Basset hound, B:144 **Batesian** mimicry Dog (table), D:225; picture on D:229 Bassetlaw [England], B:144 Basso continuo [music] Bach, Johann Sebastian (His works). Bath [England], B:151 with picture Basso Narok Lake Turkana, L:30 Basso profundo [singing] Opera (The singers), 0:458 Bassoon Imusical instrumentl, B:144 with picture Music (Woodwind instruments). M:728 with picture Basswood, B:144 with picture Lime. L:280 Tree picture on, T:385 Bastidas, Rodrigo de [Spanish explorerl Central America (The colonial period), Panama (The Spanish colonial period), Pr119 Santa Marta, S:78 Bastille French historyl, B:145 with pic-Bastille Day, B:145 with picture France (Holidays), F:400 with picture Lesotho (People), L:185; (History) L:186 Lesotho (History), L:186 **Basutoland National Party (BNP)** Lesotho (History), L:187 Kent (Recreation), K:219 Bat [animal], B:145 with pictures Animal (Wings), A:396 Ear picture on, E:13 Vampire bat, V:305 Fox (Kinds of foxes), F:379 Confirmation, Ci:277 Judaism (Special occasions), J:156

Bread (Yeast bread), B:547

Solar energy (Solar heating), So:24 Bates, Daisy [Australian public figure],

Batch heater

Avon, A:890 with picture; (Places to visit) A:892 Bath [hygiene], B:149 See also list of Related Articles Bath Tangle book by Heyer Heyer, Georgette, H:188 Bath, Knights of the Honours and awards (Order of precedence), H:272 Bathers, The (painting by Renoir) Renoir, Pierre Auguste, R:222 Bathing Baby (Baby care), B:8 Bath, B:149 with pictures Bathroom Safety, S:10 Bathsheba [wife of David, king of Israel], B:152 David, D:44 Bathurst [Australia], B:152 Bathurst [Gambia] Banjul, B:90 Bathurst Island, B:152 Northern Territory (Location and size), N:280 Bathyscaph, B:152 Diving, Underwater (Diving in vehicles), D:208 Exploration (Deep-sea exploration), E:428 with picture Marine biology (Biological oceanographers), M:210 Pacific Ocean (Exploration), P:15 Piccard, Auguste, P:486 Bathysphere, B:152 Diving, Underwater (Diving in vehicles). D:208 Batidas (drink) Brazil (Food and drink), B:534 Batik (craft), B:152 with picture Handicraft, H:48 with picture Bating Leather (How leather is made), L:141 Batista y Zaldívar, Fulgencio (president of Cubal, B:153 Castro, Fidel, C:242 Cuba, Ci:472; (The Second Republic) Cl:481 with picture; (The Batista era) Cl:481; (The Castro revolution) CE482 Batile y Ordóñez, José [Uruguayan political leader Uruguay (Reforms in the early 1900's), U:285 Batman John [Australian pioneerl, B:153] with portrait Baton Rouge [U.S.A.], B:153

Batsman

Ratt

Cricket, Ci:425

Insulation (Insulation for heat flow

control), 1:269 with picture

Batten, Jean Gardner [New Zealand pilot], B:153

Aeroplane (Fliers of the golden age), ASRI

Battenberg [German history], B:153 Mountbatten, Louis, M:673 Philip, Prince, P:367

Batter

Baseball, B:128 with picture

Battering ram, B:153 with picture Army (Ancient armies), A:592

Battersea

See Wandsworth

Battery (electricity), B:154 with pictures Car (The electrical system), C:158; (The electric car) C:166 with picture

Clock (Electric clocks), Ci:86 Electric circuit, E:142 with diagram Electricity (Sources of electricity), E:168

Electrode, E:174

Electrolysis (How electrolysis works), E:175

Fuel cell, F:479

Hydrometer, H:407 with picture Ignition (Parts of an Ignition system), t:28 with diagram

Lead, L:124

Physics (Developments in the study of electricity and magnetism), P:476 Torch, T:299 with picture

Battery [law]

See Assault and battery

Battery charger

Battery (Carbon-zinc cells), B:154 Battery (Lead-acid storage batteries), B:155

Battery ignition Ignition, 1:28

Batting

Baseball, B:128 with picture Cricket (Playing cricket), Ch427

Batting helmet

Baseball (Equipment), B:125 with pic-

Battiss, Walter (South African painter), R:157

Battle Between Carnival and Lent, The [painting by Bruegel] Bruegel, Pieter, the Elder, B:597

Battle

Army (Famous land battles) table on, A:593

"Battle Hymn of the Republic" Howe (Julia Ward Howe), H:333 Rattle of ...

See articles on battles listed under their key word, as in Waterloo, Battle of

Battle of Anghiari [painting by Leonardo da Vincil

Leonardo da Vinci (Return to Florence), L:178

Battle of Britain, B:157 with picture Churchill, Sir Winston, C:508

Battle of San Romano, The painting by Uccellol Uccello, Paolo, U:2

Battle of the Books, The book by

Swift, Jonathan (Swift's other works), So:482

"Battle of the Braes"

Crofters' War, Ci:450

Battle tank

See Tank

Battle with the Slum, The book by Riis

Riis, Iacob August, R:277

Battlers, The book by Tennantl

Tennant, Kylie, T:140

Battles, Fifteen Decisive, B:157 See also list of Related Articles

Battleship, B:158 with picture

Bismarck, B:370

Dreadnought, D:305

Navy (The beginning of modern navies), N:60

Warship (The development of warships), W:44 with pictures; (The birth of the modern battleship) W:46

World War I (A build-up of military might), W:363

Battleship Potemkin, The [film] Eisenstein, Sergei Mikhailovich, E:135 Film industry (Filmmaking in Europe), F:101

Batu Caves [Malaysia] Kuala Lumpur (Places to visit), K:337 Selangor (Places to visit), S:243

Baucis

See Philemon and Baucis

Baudelaire, Charles [French poet]. B:158 with portrait American literature (Poetry), A:314

French literature (Symbolism), F:449 Painting (Realism), P:72 with picture Poetry (Beginnings of modern poetry), PARTIE

Symbolism, So:516

Baudin, Nicolas [French navigator], B:159

Australia, History of (Maritime exploration), A:802

Kangaroo Island, K:188

Warrnambool, W:41

Baudot, Émile (French telegrapher) Telegraph (Faster and better service), T:103

Baudouin [king of Belgium], B:159 Belgium (After World War II), B:222 Royal families (Belgium), R:419

Bauhaus, B:159 with picture Architecture (Walter Gropius), A:535;

(The International Style) A:537 Breuer, Marcel Lajos, 8:555 Feininger, Lyonel, F:48 Furniture (The Bauhaus), F:506 with pictures

Germany picture on, G:123; (Architecture) G:124

Gropius, Walter, G:381

Baul [Indian saint-poets] India, Literature of (Bengali literature).

H:159

1:127 Baum, L. Frank [American author], Bauman Peak [mountain] Togo (Land), T:275

Baumfree, Isabella

See Truth, Sojourner

Bauxite, B:159 Bauxite, B:159

> Aluminium (Sources of aluminium). A:291 with map: (Refining the

bauxite) A:292 Bihar (Mining), B:288

Brazil (Mining), B:541

Guinea (Economy), G:414

Queensland picture on, Q:23 South America (Mining), So:101

Weipa, W:141

Western Australia (Mining), W:180

Bavadra, Timoci [Fijian political leader] Fiji (History), F:78

Bavaria [Germany], B:160 with maps Germany (The breakup of Charlemagne's empire), G:130

Bavarian Alps

Germany, G:127 with picture Bavarian Succession, War of the

Succession wars, So:379

Bax, Sir Arnold (British composer), B:161

Baxter, James K. New Zealand poet, B:161

Baxter, Richard (English clergyman), B:161

Bay [geography], B:161

Bay Colony

See Massachusetts Bay Colony

Bay Islands [Honduras] Honduras (People), H:259

Bay leaf Laurel, L:105

Bay of Bengal, B:161 with map

Bay of Biscay, B:161 with map Bay of Fundy, B:162 with map

Bay of Islands (New Zealand), B:162 **Bay of Pigs**

Cuba (The Bay of Pigs Invasion), Cl:482 Kennedy, John Fitzgerald (Cuba), K:217

Bay of Plenty, B:162 Bay Psalm Book, B:162

Colonial life in America (Literature),

Popular music (The development of popular music), P:682

Bay tree, B:162 with picture

Laurel, L:105 **Bay window**

Window, W:271 Baya weaver

Weaverbird, W:123

Bayberry (shrub), B:162 Wax (Vegetable wax), W:106

Bayer, Karl Joseph | Austrian chemist Aluminium (Refining the bauxite), A:292; (The growth of the alumin

ium industry) A:295

Bayeux Tapestry

Cremel, Ci:424

England picture on, E:275 Norman Conquest picture on, N:244

Baykai, Lake See Lake Baikal Bayle, Pierre (French philosopher), B:163

Biography (The 1700's), B:301

Bayley, Arthur [Australian prospector],

Baylis, Lilian Mary [British theatre managerl. B:163

Shakespeare, William (Modern performances), S:327

Baynton, Barbara [Australian writer] Australia, Literature of (Other poetry),

Bayonet [weapon], B:163 with picture Army (The rise of modern armies),

Bayou [waterway], B:163

Bayreuth [Germany], B:163

Bazaar, B:163

Cairo, C:16

Egypt (Recreation), E:109 with picture Iran (City life), 1:334; Istanbul (The city) 6441

Pakistan picture on, P:91

Bazar Dyuzi [mountain, Azerbaijan] Azerbaijan (Land and climate), A:897

Bazooka, B:163 with picture Rocket (Military use), R:318

See British Broadcasting Corporation B.C. (before Christ). B:164

Calendar (The Calendar today), C:34

B.C.E. [before Christian eral]

Calendar (The Calendar today), C:34

BCG ivaccinel, B:164

Tuberculosis (Prevention of tuberculosis), T:434

BCS theory

Superconductivity, So:428 Be (symbol)

Beryllium, B:261

Beach, B:164

Surf lifesaving (Keeping the beach safe), So:434

Beach Burial [poem by Slessor] Australia, Literature of (Modern poetry), A:832

Beach of Falesa, The book by Steven-

Stevenson, Robert Louis (Stevenson's writings), So:322

Beach plum, B:164 with picture

Beachy Head

Sussex picture on, So:449 Beacon, B:164 with picture

Beaconsfield

Buckinghamshire, **B:609**

South Bucks, So:116

Beaconsfield, Earl of

Disraeli, Benjamin, **D:202** Bead, B:165

Prehistoric people (The appearance of art), P:758

Rosary, R:396 Wampum, W:30

Beadle, George Wells (American geneticisti, B:165

Cell (The 1900's), C:304

Beadwork [craft], B:165 with picture Beagle, B:165 with picture

Beagle (ship)

Darwin, Charles Robert (Darwin's life), D:39

Evolution (Darwin's theory), E:412 Science (Observing nature), S:141;

(Scientific advances of the 1800's)

Wickham, John Clements, W:242

Beaked whale

Whale, W:207 with picture

Beaker folk (ancient people)

Scotland, History of, S:167

United Kingdom, History of the (The Bronze Age), U:125

Wales (The Bronze Age), W:15

Beale, Dorothea (British teacher), B:166

Building construction (Parts of a building), B:627

Textile (Making the fabric), T:172

Beam splitter [photography]

Communication (Communication of the future), Ci:235

Beam system [communications] Marconi, Guglielmo (Short-wave experiments), M:202

Bean beetle

See Ladybird

Bean, B:166 with pictures

Coffee (Preparation for market), Cl:152 Bean curd [food]

Tofu, T:273

Bean leaf beetle

Soybean (Diseases and pests), So:126

Bean tree

Laburnum, L.6

Bean trefoil

Laburnum, L:6

Bean, Alan L. [American astronaut] Space exploration (Other moon landings), So:153

Bean, Judge Roy | American saloonkeeperl, B:167 with picture

Bear, B:167 with pictures

Animal (Providing protection), A:392, A:393, A:408; pictures on A:386 Jammu and Kashmir (Plants and ani-

mais), 1:26

Bear market

Bears and buils, B:173

Bearbaiting (sport), B:171

Beard [barley]

Barley, B:112 with picture

Beard [hair], B:172

Beard, Charles and Mary IAmerican historians], B:172

Beard, Charles Austin [American historian]

Beard, Charles and Mary, B:172 Beard, Mary Ritter [American historian]

Beard, Charles and Mary, B:172 Bearded collie, 8:172 with picture

Bearded grass

Brome grass, B:585

Beardsley, Aubrey Vincent English artist], B:172 with picture

Art nouveau, A:604

Beardtongue

Penstemon, P:266

Bearing [machine], B:173 with pictures Bearing [navigation]

Navigation (Piloting), N:52

Bears and bulls (economics), B:173 Stock exchange (Stock exchange words). So:329

Bearsden and Milngavie [Scotland], B:173

Beartrap dam

Dam (Kinds of dams), D:12

Beat [physics] Sound, So:52

Beat poets

American literature (Poetry), A:319

Reater

Weaving (Weaving on a loom), W:125

Beatification Joan of Arc, Saint, J:122

Saint (Roman Catholic saints), S:28 Beating the bounds [custom], B:174

Beatitudes [New Testament], B:174

Reatlemania

Rock music (The Beatles), R:312

Beatles (musical group), B:174 with pic-

Hairdressing (The 1900's), H:13

Hippies, H:217

Lennon, John, L:173 with portrait McCartney, Paul, M:286

Popular music (Pop music), P:683 Rock music, R:312 with picture

Beaton, Sir Cecil (British photographerl, B:174 with portrait

Beatrix Iqueen of the Netherlands), B:174 with portrait

Netherlands, N:89 with portrait Royal families (Netherlands), R:419

Beatty, David [British naval officer], B:175

Beaufort scale

Beaufort, Sir Francis, B:175 Wind (The Beaufort wind scale), W:268

Beaufort, Sir Francis [British admiral], B:175

Wind (The Beaufort wind scale), W:268

Beauharnais, Vicomte Alexandre de [French nobleman]

Napoleon I (Marriage), N:19 Beaujoyeuix, Balthazarde (Italian

musician]

Ballet (The beginnings), B:55 Beaumarchais, Pierre Augustin

Caron de [French dramatist], B:175 French literature (The Age of Reason),

Opera (Barber of Seville, The), 0:467 with picture; (Marriage of Figaro, The) 0:471

Beaumaris [Wales]

Gwynedd (Places to visit), G:439

Beaumaris Castle

Castle (Evolution of castle building), C:238 with picture

Beaumont, Francis (English play-

wrightl, B:175 Fletcher, John, F:226

Beaurepaire, Sir Frank (Australian swimmer], B:175

Beautician

See Hairdressing

Beauties and the Furies, The book by Stead

Stead, Christina, So:307

Beauties of the Boyne and the Blackwater [book by Wilde]

Wilde, Sir William Robert Wills,

W:249

Beautiful Madonna statue

Sculpture (later medieval sculpture), 5:210

Beauty

Aesthetics, A:108

Art and the arts (The work of art),

Beauvoir, Simone de [French author], B:175 with picture

French literature (Existentialism), F:450 Beaux' Stratagem, The Iplay by Farquharl

Farquhar, George, F:28

Beaver, B:176 with pictures

Animal picture on, A:386

Fur (table), F:488; picture on F:489

Mammal diagram on, M:130

Trapping picture on, T:366

Beaver Coat, The [play by Hauptmann] Hauptmann, Gerhart, H:78

Beaver State

Oregon, O:492

Beaver, Bruce (Australian writer)

Australia, Literature of (Modern short stories), A:832

Beaverbrook, Lord (Canadian-born newspaper proprietorl, B:178 with portrait

Bébé [doll]

Doll (China dolls), D:246

Bebel, August (German socialist), B:178 Bebop

Davis, Miles, D:48 Gillespie, Dizzy, G:160 Herman, Woody, H:178 Jazz, j:76 with picture Monk, Thelonius, M:562

Parker, Charlie, P:187 Because I Was Invited [work by

Wright]

Wright, Judith, W:418

Bêche-de-mer

Fiji (History), F:78

Trepang, T:394

Bechuanaland Protectorate

Botswana (History), B:484

Rhodes, Cecil John (Gains Rhodesia), R:256

Becke, Louis [Australian writer]

Australia, Literature of (The Middle Period). A:830

Beckenham

Bromley, B:586

Becker, Boris (German tennis champion], B:178

Becket, Saint Thomas à [English reli-

gious leaderl, B:178

England (Struggles for power), E:275 Henry II. H:151

Beckett, James Camlin (Irish historian), B:178 with portrait

Beckett, Samuel Barclay (Irish author), D-178

Drama (Theatre of the absurd), D:300 with picture

French literature (Recent French literature), F:450

French literature (French drama of the mid-1900's). F:450

Irish literature, I:381

Nobel Prizes (Literature), N:232

Novel (After World War II), N:314 Beckmann, Max (German painter)

Germany (Painting and sculpture),

Painting (Expressionism), P:80; self rait on P:84

Becque, Henri (French playwright) French literature (Naturalism), F:449

Becquerel (French physicists) B:179 Becquerel, Antoine César French

physicist

Becquerel, B:179

Becquerel, Antoine Henri IFrench physicist

Becquerel, B:179

Nobel Prizes, N:227

Nuclear energy (Early developments),

Physics (The beginning of modern physics), P:476

Radioactivity, R:87

Uranium (History of the uses of uranium), U:276

Red

River (The channel of a river), R:289 Bed [furniture], B:179 with pictures

Bed bug, B:180 with picture

Bugbane, B:625 with picture Insect picture on, 1:243

Beddgelert [Wales]

Gwynedd (Places to visit), G:439

Beddington and Wallington

Sutton, So:451

Bede [English historian], B:181

Caedmon, C:12

History (Medieval times), H:225 lutes, 1:175

Bedford (England), B:181

Bedford Borough Ilocal government district], B:181

Bedford Village book by Allen Allen, Hervey, A:272

Bedford, Jean (Australian writer) Australia, Literature of (Modern short stories), A:832

Bedford, Earl of

See Russell, Lord John

Bedfordshire [England], B:181 with picture and map

See also list of Related Articles Arms picture on, A:585

Bedgebury Pinetum [England] Kent (Places to visit), K:221

Bedlam, B:183

Mental illness (Early attitudes), M:355

Bedlington terrier, B:183

Dog picture on, D:233

Bednorz, J. Georg [German physicist] Superconductivity, So:428

Bedouins [people], B:183

Africa (Rural life), A:125

Egypt (People), E:108 Iraq (Rural life), 1:344

lordan (Way of life), 1:142

Saudi Arabia (Way of life), S:105 with picture

Turban picture on, T:446

Bedrock (geology)

Glacier (How glaciers shape the land), G:175

Bedsore, B:183

Ulcer, U:15

Bedstraw, B:183

Bedtime Story Book Series (book by

Burgess, Thornton Waldo, B:650

Bee assassin

Bee (Enemies), B:189

Bee. B:184 with pictures

Animal (Fighting), A:404; (Group living) A:410

Flower (Cross-pollination), F:263

Flower (Fertilization), F:264

Frisch, Karl von, F:462

Honey, H:264 with picture

Insect pictures on, 1:245; (Beneficial insects) 1:246 with picture; (Wings) 1:250; (Family life) F:256 with pic-

Pollen (Cross-pollination), P:655 with

picture Sociobiology, So:10

See also Bumble bee: Honey bee

Bee-eater (bird), B:192

Bee (Enemies), B:189

Bird picture on, B:321

Bee fly, B:192 with picture

Bee glue

Bee (The honey bee colony), B:185

Bee hummingbird

Bird picture on, B:316

Hummingbird picture on, H:370

Bee killer

Bee (Enemies), B:189

Beebe, William [American naturalisti, B:192

Bathysphere, B:152

Exploration (Deep-sea exploration), E:428; (table) E:429

Beech, B:192 with pictures

Tree picture on, T:384 Wood picture on, W:299

Beech marten

Marten, M:230

Beecham, Sir Thomas (British conduc torl. B:193

Beef. B:193

See also list of Related Articles Cattle, C:270; (Beef cattle) C:272 with

pictures; (Dual ose cattle) C:275 Meat (Kinds of meat), M:297; (table)

M:298

Meat processing, M:299 with pictures

Vea[, V:320 **Beef** road Queensland picture on, Q:24 Beefeater England (Traditions), E:266 Beehive Bee (Beekeeping), B:190 Beekeeping Bee (Beekeeping), B:190 Beelzebub, B:193 Beer, B:193 Alcoholic beverage (Fermented beverages), A:237 Brewing, B:555 with picture Coal (Developments in England), Egypt, Ancient (Food, clothing, and shelter), E:122 England (Food and drink), E:267 Germany (Food and drink), G:120 Hop, H:275 Indian, American (Food), 1:139 Ireland (Food and drink), 1:355 **Beer Hall Putsch** Hitler, Adolf, H:229 Ludendorff, Erich Friedrich Wilhelm, E/ATZ Munich, M:701 Beerbohm, Sir Max [English writer] Parody, P:198 Beersheba (Israell, B:193 Beeston See Nottinghamshire Beeswax Bee (Making wax), B:188 Candle, C:124 with picture Wax (Animal wax), W:106 Beet. B:193 Sugar beet, So:393 with picture Beethoven-House Bonn (Education and cultural life), Beethoven, Ludwig van (German composerl, B:194 with portrait Autograph picture on, A:871 Classical music (The classical period), Cl:60 with picture; (The romantic era) Ci:61 Handicapped, H:44 Moon (Literature and music), M:594 Music (Melody), M:730 Beetle, B:196 with pictures See also list of Related Articles Dutch elm disease, D:358 with picture Flower (Pollination by beetles and flies), F:264 Beeton, Mrs. [British cookery writer], 5:200 Beetroot See Beet Before Christ (calendar) B.C., B:164 Calendar (The calendar today), C:34 See also A.D.; Christian Era Before Sunrise [play by Hauptmann] Hauptmann, Gerhart, H:78 Bega (Australia), B:200 Beggar

Friar, F:458

Behring, Emil von |German bacteriolo-

Beggar-tick, B:200 with picture gistl, B:203 with portrait Behrman, S. N. [American playwright], Beggar's Opera, The opera by Gayl Drama (England), D:294 B:203 Beiderbecke, Bix [American jazz musi-Gav. John. G:66 cianl, B:203 with portrait Hogarth, William, H:241 lazz (The 1920's), J:75 with picture Beggar's Opera, The [painting by Hogarthi Beiling [China], B:204 with pictures and Hogarth, William, H:241 Beggarweed, B:200 Architecture picture on, A:518 Begin, Menachem (Israeli statesman), China, C:431 B:201 with picture Tianjin, T:235 Beiling duck [food] Arabs (The Arab-Israeli conflict), A:493 Egypt (Renewed warfare and peace), China (Food), C:443 Beiling opera China (Theatre), C:449 with picture Middle East (Attempt at peace), M:457 Drama (China), D:296 with picture Nobel Prizes (Peace), N:234 Music (Chinese music), M:734 Begleit Panzer (cannon) Beinecke Rare Book and Manuscript Gun picture on, G:428 Library Begonia, B:201 with picture Library picture on, L:222 Behan, Brendan (Irish writer), B:201 Yale University (The Yale campus), with portrait Irish literature (Drama), I:383 Being and Time (book by Heidegger) Behaviour, B:201 Heidegger, Martin, H:133 See also list of Related Articles Being [philosophy] Animal (Courtship behaviour), A:405 Existentialism, E:415 with picture Sartre, Jean-Paul, S:93 Balance of nature (Maintaining the bal-Beirut (Lebanon), B:208 ance), B:35 Lebanon, L:144; picture on L:147; (War Industry (Behaviour), 1:225 and terrorism) L:148 Learning, L:137 Reirut Harbour Motivation, M:648 Lebanon picture on, L:145 Public opinion poll (Social scientists), Belsa P:839 Behaviour modification Oryx, **0:507** Beja (people) Autism (Treatment), A:870 Sudan (People), So:381 Behaviour (Behaviourism), 8:202 Bekaa (valley, Lebanon) Education (How people learn), E:89 Lebanon (Land and climate), L:146 Hyperactivity, H:411 Learning (Theories of learning), L:138 Békésy, Georg von [American physicistl Behavioural psychology Sound (Recent developments), So:54 Science (Psychology), 5:141 Behavioural psychotherapy **Bel canto** Horne, Marilyn, H:282 Mental illness (Psychotherapy), M:354 Opera (table), O:457; (Opera seria) Psychotherapy, P:832 0:463 Behavioural therapy Belaúnde Terry, Fernando (Peruvian Phobia, **P:427** Psychiatry (Psychotherapy), P:825 political leader) Peru (The rise of APRA), P:316; (Social-Rebaviourism ist reforms) P:317; (Recent devel-Behaviour (Behaviourism), B:202 opments) P:317 Emotion (Early theories about emo-Belafonte, Harry [American singer], tions), E:230 Gestalt psychology, G:143 Belaney, Archibald Stansfeld Psychology (Behaviourism), P:830 Skinner, B. F., S:474 See Grey Owl Belarus, B:208 with map Tolman, Edward Chace, T:288 Bush, George (Foreign affairs), B:669 Watson, John Broadus, W:101 Commonwealth of Independent Beheading (execution) States, Cl:222 Guillotine, G:412 with picture Flag picture on, F:207 Behn, Aphra [English dramatist], B:203 Nuclear weapon (Limiting numbers), with portrait Behold Mama, Flowers [poetry by Belarusian Autocephalous Orthodox Serote Serote, Mongane Wally, S:271 Church Behrens, Peter [German architect], Belarus (Religion), B:209 Belarusian Catholic Church Belarus (Religion), B:209 Architecture (Early modern architec-Belarusian language ture in Europe), A:532 with pic-Belarus (Language), B:209

Belarusians

Belau Islands Belarus (Population and ethnic groups), B:208 1:320 **Belau Islands** See Palau Islands **Belay Islands** See Palau Islands Belém (Brazil), B:211 Belfast [Northern Ireland], B:211 with picture and map Northern Ireland, N:269 with picture; (Way of life) N:272 Belgae (ancient people) Belgium (History), B:221 Beiglan Congo [Zairian history] Belgium (Independence), B:221; (After World War II) B:222 Colonialism (Political policies), Ci:187 Zaire (Belgian rule), Z:485 Belgian hare Hare, H:59 **Belgian horse** Horse, H:290 with picture Belgian sheepdog, B:213 with picture Belgian Tervueren Belgian sheepdog, B:213 Dog picture on, D:231 ments), H:403 Belgium, B:214 with pictures and maps See also list of Related Articles Aviation (Aircraft nationality marks), Brussels, B:601 with picture Canal (Belgium and the Netherlands). C:111 ture Christmas (In the Netherlands, Belgium, and Luxembourg). C:490 Decorations, medals, and orders, D:75 Europe (table), E:359 Flag picture on, F:207 Industrial Revolution (Belgium), 1:217 Nuclear energy, table on, N:328 Royal families, R:419 Belgrade, B:224 with picture Serbia, S:266 with picture B:229

Yugoslavia, Y:470

Bellef

Hume, David (His philosophy), H:366 Islam (Essential beliefs), 1:414 Judgment, 1:158 Religion, R:197 **Belisha** beacon

Hore-Belisha, Lord, H:277 Belize, B:224 with pictures and map Belmopan, B:232 CARICOM, C:199

Flag picture on, F:202 Latin America (Border disputes), L:92 Belize City, B:226

Bell, The [book by Murdoch] Murdoch, Dame Iris, M:705

Bell, B:226 See also list of Related Articles

Electric bell, E:140 with diagram "Bell Birds" [poem by Kendall]

Kendall, Henry, K:215 Bell Jar, The [book by Plath] Plath, Sylvia, P:588

Bell miner

Bird picture on, B:333 **Bell Telephone Company** Invention (Research laboratories), 1:313: (Recent developments)

Bell Telephone Laboratories Invention (Research laboratories), 1:313 Telephone (Telephone improvements), T:110

Bell X-1 rocket plane

Aeroplane picture on, A:83 Aeroplane (Supersonic aeroplanes),

Bell, Alexander Graham (Scottish-born American inventor], B:228 with pic-

Autograph picture on, A:871 Cables (The spread of telephone cables), C:6

Communication (In the late 1800's), Ch:232 with picture; (Famous first words) Ci:234

Dolbear, Amos, D:242 Gray, Elisha, G:310 Headphones, H:94 Hearing aid (History), H:97 Hydrofoil (Early hydrofoil experi-

Invention (The late 1800's), 1:318 Keller, Helen Adams, K:211 Kite (History), K:293 Microphone, M:440

Telegraph (The telegraph today), T:103 Telephone (History), T:109 with pic-

United States, History of the (Distribution and communication), U:253 Bell, Alexander Melville

See Bell, Alexander Graham Bell, Allen [American inventor]

Lie detector, L:242 Bell, Chichester [American Inventor]

Record player (History), R:166 Bell, Gertrude (British archaeologist),

Bell, Henry [Scottish inventor], B:229

Bell, Sir Charles (British surgeon), B:229

Bell's paisy, B:232

Belladonna

Deadly nightshade, D:54

Belladonna lily Amaryllis, A:297

Bellamy, Edward [American author], B:230

Bellarmine, Saint Robert Francis Romulus [Italian theologian], B:230 Jesuits, 1:95

Bellay, Joachim du [French poet] French literature (The Renaissance), F:446

Belibird, B:230

Bird picture on, B:333, B:334

Belle Boyd in Camp and Prison book by Boyd)

Boyd, Belle, B:502 Belle of the Ninetles [film] West, Mae. W:156

Bellenden Kerr Range Queensland (Eastern Basins and Ranges), Q:19

Beliflower

See Campanula

Belligerent political science Neutrality, N:103

Bellingham, John [British assassin]

Perceval, Spencer, P:279 Bellingshausen, Fabian von Russian

explorer) Antarctica (Exploration), A:442 with

Exploration (table), E:427 with map

Bellini, Gentile [Italian painter], B:230 Titian, T:266

Bellini, Giovanni, B:231 with portrait Francis of Assisi, Saint picture on,

Titian, T:266

Bellini, Jacopo [italian painter], B:231 Beilini, Vincenzo (Italian composer),

Opera (Romanticism), O:464

Bello, Andrés (Venezuelan poet) Latin-American literature (Romanticism), L:95

Belloc, Hilaire |British poet|, B:231 with picture

Biography (Modern biography), B:302 Bellow, Saul [American author], B:231 American literature (Fiction and other prosel, A:320

Bellows, B:231 with picture

Bellows, George Wesley (American artist], B:232 with picture

Bell's palsy [disease], B:232 Bell, Sir Charles, B:229

Belly of Paris, The [book by Zola] Zola, Émile, Z:500

Belmopan [Belize], B:232 Belize, B:224

Belo Horizonte (Brazil), B:233 Beloved (book by Morrison)

Morrison, Toni, M:618

Belovezha Forest

Belarus (Land and climate), B:209

Beloye More

White Sea, W:236

Belsen (concentration camp), B:233 Belshazzar's Feast imusic by Walton

Walton, Sir William, W:29 Beit drive

Record player (The drive system), R:163

Whale picture on, W:205; (Belugas and narwhals) W:207; (Migrations) W:210

Beluga sturgeon Caviar, C:287

Sturgeon, So:362

Belukha (mountain, Russial Altai Mountains, A:288

Belyayev, Pavel (Russian astronaut) Space exploration (Voskhod and Gent-

ini: The first multiperson space flights), So:148 with picture Bemelmans, Ludwig | American writerly

B:233 with picture

Ben Ali, Zine el-Abidine (Tunisian political leader)

Bourguiba, Habib, B:488 Tunisia (History), T:443

Ben Bella, Ahmed [Algerian leader].

Algeria (Independence), A:266

Ben Bulben [mountain, Ireland] Ireland picture on, I:357

Sligo [county] picture on, S:487

Ben-Gurion, David (Israeli prime ministerl. B:233 with portrait

Israel (Independence and conflict), 1:438

Ben-Hur (book by Wallace)

Wallace, Lew, W:24 Ben Hur (film)

Fry, Christopher, F:477 Wyler, William, W:426

Ben Lomond [Scotland], B:234

Ben Nevis (Scotland), B:234

Benares (India)

Varanasi, V:314

Benaud, Richie [Australian cricketer], B:234

Benavente, Jacinto (Spanish playwright], B:234

Benbow, John [British admiral], B:234 with portrait

Bench mark, B:234

Bendigo [Australia], B:234 Bending the Bow [poem by Duncan]

Duncan, Robert, D:348 Bendix, Vincent [American inventor], 8:233

Bendjedid, Chadli [president of Alge-

Algeria (Recent developments), A:266

Bends, B:235 with picture

Air lock, A:201 Caisson, C:21

Diving, Underwater (Dangers of underwater diving), D:209

Beneath Tropic Seas (book by Beebe) Beebe, William, B:192

Benedetti, Count (French diplomat) Franco-Prussian War (Events leading up to the warl, F:423

Benedict of Nursia, Saint Italian religlous leader], B:235

Benedictines, B:235

Monasticism (Christian monasticism),

Monte Cassino, M:574

Religious life (The Roman Catholic Church), R:208

Roman Catholic Church (Monasticism), R:340

Benedict XIV [pope]

Pope picture on, P:677

Pope (The 1700's and 1800's), P:678

Benedict XV [pope], B:235 Benedict [ship]

Drake, Sir Francis (Voyage around the world), D:281

Benedictines [religious group], B:235 Monasticism picture on, M:544

Monte Cassino, M:574 Pope (The early Middle Ages), P:676 Religious life (The Roman Catholic

Church), R:208

Benefactor, The book by Sontagl Sontag, Susan, So:42

Beneficiary

Insurance (Life insurance), 1:272 Trust fund (How a trust fund works), T1428

Renefit

Insurance, 1:272

Benefit of clergy, B:236

Beneiux, B:236

Beneš, Eduard Icofounder of Czechoslovakial, B:236

Czech Republic (The creation of Czechoslovakia), Ch521; (The Munich Agreement) Cl:521

Czechoslovakia (Independence),

Ci:524; (German seizure) Cl:524 Benét, Laura (American writer)

Benét, **B:236**

Benét, Stephen Vincent (American writer]

Benét **B:236**

Benet, William Rose [American writer] Benét B:236

Benevolence

Hume, David, H:366

Philosophy (Modern philosophy), P:424

Benga (people)

Equatorial Guinea (History), E:316

Bengal, B:236

Bangladesh, B:81; (British India) B:88

Bengal fox

Fox (Kinds of foxes), F:379

Bengal tiger

Tiger (The rare tiger), T:245

Bengali India, Languages of (Modern Indo-European languages), k123

Bengali literature

Bangladesh (The arts), B:85 Tagore, Sir Rabindranath, T:7

Bengalis (people) Bangladesh, B:83

Benghazi [Libya], B:236

Libya (Libya today), L:239

Benguela Current

Atlantic Ocean (Currents), A:719 Ocean diagram on, 0:388

Benhabiles, Abdelmalik [Algerian political leader

Algeria (Recent developments), A:266

Benian tumour Biopsy, B:313

Brain (Tumours), B:517

Skin (Tumours), S:470 Tumour, T:438

Benin (country), B:237 with picture and

Flag picture on, F:200 Porto-Novo, P:697

Benin (former kingdom), B:238 Antique picture on, A:463 Nigeria (Early kingdoms), N:213 Sculpture (African sculpture), S:202 with picture; picture on \$:213

Bénin, University of [Togo] Togo (People), T:274

Benjamin [Biblical figure], B:239

Joseph, J:147

Benjamin, Arthur [Australian composerl, B:239

Benjamin Franklin (sculpture by Powersl

Powers, Hiram, P:732

Benjamin Franklin [work by d'Aulaire] D'Aulaire, D:43

Benjedid, Chadli, B:239

Benmore dam

Dam (Some important dams), D:14

Benn. Tony (British politician), B:239

Bennelong [Aborigine], B:239 Phillip, Arthur (Aborigines), P:418

Bennett, Arnold [English author], B:239 Stoke-on-Trent, So:333

Bennett, Floyd [American aviator] Aeroplane (Fliers of the golden age),

Exploration (Polar exploration), E:427 North Pole, N:261

Bennett, Richard Rodney [British composerl, **B:239**

Benny, Jack [American comedian], B:240 Benoni (South Africal, B:240

Benson, Arthur Christopher (British poet), B:240

Benson, Edward Frederic (British authorl. B:240

Benson, Edward White (British religious leader), B:240

Benson, Robert Hugh, B:240 Bent [plant], B:240

Lawn (Planting the grass), L:118

Bentham, Jeremy (English philosopherl, **B:240**

Dickens, Charles (The second phase), D:161

Mill, James, M:471

Philosophy (Philosophy in the 1800's),

Political science (Liberalism), P:654 Utilitarianism, U:287

Benthos

Ocean, 0:392 with pictures

Benthoscope

Diving, Underwater (Diving in vehicles), D:208

Bentinck, William Henry

Portland, Duke of, P:697 Bentley, E. C. British authorl, B:240

Bentley, John Francis (English architectl

Westminster Cathedral, W:196

Bentley, Phyllis [British novelist], B:240 Bentley, Thomas British businessman Wedgwood, Josiah, W:130

Benton, Thomas Hart [American artist], B:240

Bentonite, B:241

Benz, Karl (German inventor), B:241 Car (The petrol-engined car), C:167

with picture Energy supply (The industrial revolu-

tion), E:250 Invention (The late 1800's), I:318

Petrol engine (Development of the petrol engine), P:334

Benzedrine

See Amphetamine Benzene, B:241 with diagram Hydrocarbon (Aromatics), H:401 Petrochemicals, P:328 Petroleum (Solvent extraction), P:348 Benzine, B:241 Benzodiazepine [drug] Drug (Depressants), D:313 Benzoic acid Toluene, T:290 Benzol See Benzene **Beograd** [Serbia] Belgrade, B:224 with picture Beowulf (epic poem), B:241 with picture Epic, E:311 Kent, Rockwell, K:222 Poetry (Medieval poetry), P:615 Bequest Will, W:254 Bequest to the Nation, A lplay by Rattigan] Rattigan, Sir Terence, R:144 Berber ilanguagel Egypt (Language), E:108 Berbers [people], B:241 Africa (Racial groups), A:122; pictures on A:117, A:127 Algeria (History), A:265 Barbary States, B:105 Ghana Empire, G:148 with map Libya (People), L:237 Morocco, M:611; (Population and ancestry) M:612; (Arab conquest) Berchtesgaden [Germany], B:242 Berdyaev, Nicolas (Russian religious leaderl, B:242 "Bereft" [poem by Frost] Frost, Robert Lee (His poems), F:471 Bérégovoy, Pierre France (Recent developments), F:418 Berg, Alban [Austrian composer], B:242 Austria (Music), A:860 Classical music (The 1900's), Ci:62 with picture Opera (Wozzeck), 0:474 Webern, Anton, W:127 Berg, Otto [German scientist] Rhenium, R:250 Berg, Patty [golfer] Golf picture on, G:250 Bergamot, B:242 Bergamot orange [tree] Bergamot, B:242 Bergen-Belsen See Belsen Bergen [Norway], B:243 Climate (Differences in land and water temperatures), Ci:81 Europe picture on, E:356 Bergerac, Cyrano de See Cyrano de Bergerac, Savinien de Bergman, Ingmar (Swedish film direc-

torl, B:243

Film industry (The art film revival),

Sweden (Film industry), So:468

Bergman, Ingrid (Swedish film actress).

F:104 with picture

B:243 with picture Bergson, Henri [French philosopher], B(243 Nobel Prizes (Literature), N:232 Beria, Lavrenti (Russian political leader) Stalin, Josef (Rule by terror), So:268 Beriberi (disease), B:243 Bread (History), B:549 Bering Sea, B:244 with map Pacific Ocean (Coastline and islands), Bering Sea controversy, B:244 **Bering Strait** Bering Sea, B:244 with map Pacific Ocean (Boundaries and size), Bering, Vitus [Danish navigator], B:243 Alaska (History), A:227 Berisha, Sall [Albanian political leader] Albania (History), A:230 Berkeley Castle [England] Gloucestershire (Places to visit), G:213 Berkeley, George (Irish philosopher), B:244 Idealism, 1:26 Philosophy (Modern philosophy), Berkeley, Sir Lennox (British composeri. B:245 Berkeley, Sir William English colonial officiall, B:245 Berkelium (element), B:245 Berkman, Alexander See Goldman, Emma Berkshire (England), B:245 with map See also list of Related Articles Arms picture on, A:585 Berlin airlift [1948-1949] Berlin (The Soviet blockade). B:254 Clay, Lucius Dubignon, Ci:70 Cold War (Beginnings of the Cold Warl, Cl:160 with picture Germany (The division of Germany), G:138 Berlin [Germany], B:247 with pictures and map See also list of Related Articles Berlin Wall, B:255 with picture Kennedy, John Fitzgerald (Berlin), K:217 Berlin Decree |French history| Continental System, Ci:317

Milan Decree, M:463 Napoleon I (Fall from power), N:22 Berlin Wall, B:255 with picture Berlin, B:254 with picture Berlin, Congress of [1878], B:255 Bosnia-Herzegovina (History), B:475 Bulgaria (Turkish rule), B:637 Congress, Ci:282 Montenegro (History), M:575 Berlin, Irving [American composer], Berliner, Emile [German inventor], B:256

Communication (in the late 1800's),

Berlioz and the Romantic Century

Record player (History), R:166

Ci:232

book by Barzunl Barzun, lacques, B:123 Berlioz, Hector French composerl. B:256 Classical music (The romantic era). Cl:61: picture on Cl:62 Liszt, Franz (His life), L:307 Berlusconi, Silvio (Italian prime ministerl. B:256 Italy (Recent developments), 1:261 Bermuda (British dependency), B:256 with picture and map Bermuda grass plant Grass picture on, G:302; table on G:303 Bermuda Triangle, B:257

Bermúdez, Juan de (Spanish explored Bermuda (History), B:257 Bern (Switzerland), B:258 with picture Postal Union, Universal, P:716 Switzerland, So:491

Bernadette, Saint, B:258 Bernadotte, Count Folke (Swedish diplomati Bunche, Raiph Johnson, B:644 Bernadotte, Jean Baptiste Jules (French general), B:258

Sweden (The Napoleonic Wars), So:474 Bernal, John Desmond [Irish physicist],

B:258 Bernard of Clairvaux, Saint, B:258 Crusades (The Second Crusade),

CE463 Eugene III, E:352 Knights Templars, K:304 Bernard, Claude (French physiologist,

Biology (Materialistic physiology and

the cell theory), B:307 Curare, Ch500

Berne

Bernese Oberland

See Bern

Berne Convention for the Protection of Literary and Artistic Works Copyright (International conventions), Ci:346

Bernese Alps imountains Switzerland (The Swiss Alps), So:496 Bernese mountain dog, B:259 with picture

Bern. B:258 Bernhard of Lippe-Blesterfeld, Prince Juliana, 1:161

Bernhard, Thomas [German author] German literature (German literature today), G:110

Bernhardt, Sarah [French actress], B:259 with portrait

Bernheim, Hippolyte [French doctor] Hypnotism (Scientific studies), H:415 Bernier, Joseph Elzéar (Canadian ex-

plorer], **B:259** Bernini, Gian Lorenzo (Italian sculptor), B:259

Altar picture on, A:288 Architecture (Baroque architecture), A:528; picture on A:526

Baroque (Baroque sculpture), B:116 Italy picture on, 1:457 Saint Peter's Church (The exterior). S:42 with picture; (The interior)

S:42 Sculpture (European sculpture), S:212

with picture Bernoulli, Daniel (Swiss mathematician)

Aerodynamics (Lift), A:71 Bernoulli, B:259

Bernoulli's principle, B:260

Hydraulics (Laws of hydraulics), H:400

Mathematics (Developments in the 1700's), M:260

Sound (The wave theory), So:53

Bernoulli, Jakob [Swiss mathematician] Bernoulli, B:260

Mathematics (Developments in the 1700's), M:260

Bernoulli, Johann (Swiss mathematiclan)

Bernoulli, B:260

Mathematics (Developments in the 1700's), M:260

Bernoulli's principle, B:260

Bernstein, Leonard (American conductorl, B:260

Berrio (ship)

Da Gama, Vasco (Voyage to India), D:4

Berry, B:260

See also list of Related Articles in the Berry article

Coffee (From bean to cup), Cl:152 with pictures

Flower (Fertilization), F:264 Fruit picture on, F:475

Raspberry, R:140 Berry, Chuck [American musician],

B:260 with portrait Rock music (The emergence of rock n" roll), R:311: picture on R:312

Berry, Duc de [French nobleman] Limbourg, Pol de, L:279

Berryman, John [American poet], B:260 American literature (Poetry), A:319

Berserker

Vikings (Warfare), V:392

Bertha, Queen Iqueen of Francel Mother Goose (Who was Mother Goosel, M:644

Berthelot, Marcelin (French chemist), B:261

Acetylene, A:22

Berthold V (duke of Zähringen) Bern (History), B:258

Bertillon system

Fingerprinting (History), F:112 Police laboratory (History), P:645

Bertillon, Alphonse [French statistician] Police laboratory (History), P:645

Bertin, Jean (French engineer) Hovercraft (History), H:332

Bertrand, John [Australian yachtsmanl,

Berwick-upon-Tweed (England), B:261 Northumberland, N:286 with picture

Berwick, Treaty of, B:261 Berwickshire llocal government districtl

Borders Region, B:466; (Local government). B:467

Beryl [mineral], B:261 Emerald, E:228

Gem (Colour), G:70

Silicate, S:420

Berylliosis (disease)

Beryllium, B:261

Beryllium (element), B:261

Berzelius, Jøns jakob (Swedish chemistl. B:261

Cerium. C:329

Chemistry (Dalton's atomic theory), C±370

Selenium, S:244

Silicon, S:421

Besant, Annie Wood (English social reformerl, B:261

Besh barmak [food]

Kazakhstan (People), K:204

Beside the Fire (book by Hydel

Hvde, Douglas, H:394

Bess of Hardwick Icountess of Shrewsburyl. B:262

Bessarabia (region), B:262

Moldova (History), M:529

Bessel function [mathematics] Bessel, Friedrich Wilhelm, B:262

Bessel, Friedrich Wilhelm [German astronomeri, B:262

Bessemer process

Bessemer, Sir Henry, B:262

Iron and steel (The birth of modern steelmaking), I:401

Bessemer, Sir Henry [British inventor],

fron and steel (The birth of modern steelmaking), 1:401

Best man

Marriage (Wedding ceremonies and customs), M:218

Best Years of Our Lives, The [film] Wyler, William, W:426

Best, Charles Herbert [Canadian physiologist), B:262

Banting, Sir Frederick Grant, B:98 Insulin (Diabetes), 1:271

Bestlary [literature]

Manuscript (European manuscripts of the Middle Ages), M:172

Beta-blocker [drug], B:262 Heart (Treatment), H:105

Beta cells

Pancreas, P:127

Beta decay

Sun (The thermonuclear furnace), So:416

Transmutation of elements, T:344

Beta glucosidase (enzyme)

Gaucher's disease, G:62

Beta Israel |people|

Ethiopia (Population, ancestry and language), E:338

Beta particle, B:262

Alpha particle, A:282

Atom (Radioactivity), A:726

Gamma rays, G:26

Nuclear energy (Radioactive decay), N:321; (The beginning of nuclear physics) N:329

Nuclear physics, N:332

Nuclear weapon (Residual nuclear radiation), N:338

Radioactivity (Kinds of radiation), R:87; diagram on R:88; (Beta radiation)

R:88: (In industry) R:89

Beta Persei Algol, A:267

Beta radiation

Radioactivity, R:88

Rota ray

Wilson cloud chamber, W:263

Beta Tauri

Taurus, T:68

Beta wave

Electroencephalograph, E:175

Betancourt, Rómulo (Venezuelan political leaderl

Dominican Republic (History), D:261 Venezuela (The road to democracy),

Betatron, B:262

Particle accelerator (Kinds of accelerators). P:206

X rays (How X rays are produced), KMAY

Betawi (language)

lakarta (People), J:14

Betel, B:263

Betel nut

Betel. B:263

India (Agriculture), 1:72

Betelgeuse (astronomy), B:263 with diagram

Orion, 0:498

Star (How many stars are there?), So:281; (Colour, temperature and brightness) So:280; (The size of stars) So:281

Bethe, Hans Albrecht [American physicistl, B:263

Nobel Prizes (Physics), N:227 Sun (Solar energy theories), So:416

Bethlehem, B:263 with picture Bethnal Green Museum [London]

Doll (Doll's in museums). D:249

Bethsaida lancient cityl

Galilee, G:12

Bethune, Mary McLeod [American educatori, B:263 with portrait

Bethune, Norman (Canadian surgeon), B:264

Betjeman, Sir John (English poet), B:264

Betla [India]

Bihar (Places to visit), B:290

Betley (England)

Staffordshire (Places to visit), So:261

Betrothed, The [book by Manzoni] Italian literature (Romanticism), 1:446 Manzoni, Alessandro, M:172

Betsey (ship)

Jones, John Paul, J:139

Fightingfish, F:74 with picture

Bettelheim, Bruno | American psychiatrist], B:264

Better Class of Person, A lplay by Os-

ture

Bhakra dam [India]

Dam (Some important dams), D:14

Bible, B:270 with pictures Sutlei River, So:451 homel See also list of Related Articles Bhakti Osborne, John, 0:509 Cambridgeshire (Local customs), C49 India, Literature of (Medieval litera-Betti, Ugo (Italian playwright), B:264 Dead Sea Scrolls, D:54 Drama (Italian drama), D:299 ture). I:126 Eastern Orthodox Churches (Doc-India, Literature of (Women poets of Betting trines). E:48 England (Recreation), E:267 bhakti), 1:126 Evolution (Acceptance of evolution). Bhakti-yoga Gambling, G:23 E413 Horse racing, H:308 Yoga, Y:453 Fundamentalism, F:483 **Bharat Ratna** Between Scylla and Charybdis lex-Galilee, G:12 with map Decorations, medals, and orders pressionl Hampton Court Conference, H:37 (Other awards), D:73 Scylla, S:220 Bharata (Indian dramatist) Hebrew language and literature, H:129 Between the Acts book by Woolfl Illiteracy (The need for literacy), 1:32 Drama (India), D:296 Woolf, Virginia, W:313 **Bharata Natvam** Jerome, Saint, J:86 Betws-v-Coed [Wales] Dancing (Oriental dancing), D:24 judaism, j:154 Gwynedd (Places to visit), G:439 Knox, Ronald, K:310 Bevan, Aneurin (British Labour politi-India, Dance and music of, I:92 cian], B:264 Bharati, Subramania [Indian writer] Library (The Middle Ages), L:231 Mormons, M:608 Bevatron India, Literature of (The birth of nation-Lawrence, Ernest Orlando, L:121 alism), I:128 New Testament, N:135 Old Testament, 0:427 **Bharatour** Indial Bevel gear Gear (Types of gear), G:68 Rajasthan (Places to visit), R:126 Parable, P:158 Bhavabhuti [Brahman dramatist], B:267 Protestantism (The authority of the Beverage See Alcoholic beverage; Coffee; Milk; Bhopai Bible), P:815 Disaster (Accidents). D:188 Scopes trial, S:154 Soft drink: Tea Beveridge, Lord [British economist). Environmental pollution (Hazardous Tyndale, William, T:481 Vatican Council II (The Constitution of B:265 waste), E:305 Beverley [England], B:265 Madhya Pradesh (History), M:32 Divine Revelation), V:318 Beverley, Robert Bhubaneswar [India], B:267 Vulgate, V:429 American literature (Colonial litera-Bhul [city] Witchcraft (Ancient times), W:282 ture). A:310 Gujarat (Places to visit), G:422 Written literature, L:310 Beverly Hills [U.S.A.], B:265 Bhumibol Adulyadej [king of Thailand], Wycliffe, John, W:425 Bevin, Ernest [British trade unionist]. Biblical Songs [music by Dvořák] Royal families (Thailand), R:421 with Dvořák, Antonín, D:359 picture Bewick, Thomas (English wood en-Bibliography, B:279 graver), B:265 Bhutan, B:267 Book, B:454 Bexley (London), B:265 Flag picture on, F:204 Bibliothèque Nationale, B:279 with Bey [title] Bhutto, Benazir [prime minister of Pakipicture Egypt (Turkish and French control), France (Museums and libraries), F:401 stan], B:269 with portrait E:116 Pakistan (Recent developments), P:100 Library picture on, L:211 Beyle, Marie Henri Bhutto, Zulfikar All [prime minister of Paris (Schools and libraries), P:182 See Stendhal Pakistanl, B:269 Bibury (England) Beyond Good and Evil (book by Nietz-Gloucestershire (Places to visit), G:213 Pakistan (Civil war), P:99; (Recent deschel velopments) P:100 Bicameral legislature, B:280 Nietzsche, Friedrich, N:202 Bi [symbol] Legislature, L:156 Beyond the Horizon Bismuth, B:371 **Bicarbonate** O'Neill, Eugene Gladstone, 0:452 BI Sheng [Chinese printer] Carbonate, C:189 Realism (In drama), R:160 Invention (China), 1:315 Bicarbonate ion Beyond the Outsider (book by Wilson) Printing (History), P:786 Respiration (Internal respiration), Wilson, Colin, W:261 Type (History), T:484 Bezoar goat Bia, Mount [Laos] Bicarbonate of soda, B:280 Goat (Wild goats), G:221; picture on Laos (Land), L:59 Baking powder, B:34 G:222 Biafra [region] Soda, So:15 Bhagat, Dhanraj [Indian sculptor] Famine (Other causes), F:25 Sodium (Uses), So:16 Sculpture (Varieties of abstraction). lgbo, 1:27 Biceps S:217 Nigeria (Civil war), N:214 Arm, A:576 with diagram Bhagavad-Gita, B:265 Biafran War (1967-1970) Muscle, M:714 Hinduism (Beliefs of Hinduism), H:209 Nigeria (Civil war), N:214 Bichat, Marie François Xavier, B:260 (Literature) H:214 Bialik, Chaim Nachman [Hebrew poet], Bichir, B:280 Mahabharata, M:62 Fish (Primitive bony fish), F:156 Sanskrit literature, 5:75 Hebrew language and literature (Mod-Bichon frise, B:280 with picture Vishnu, V:409 Bickerstaff Papers (book by Swift) ern Hebrew literature), H:130 Bhagavata Purana Blas Swift, Jonathan (Swift's other works), India, Literature of (Medieval litera-Electronics (Solid-state components), So:482 ture), 1:126 E:188 Bicol [Philippines], B:280 Bhagirathi-Hoogly [river] Biathion (sport), B:269 **Bicuspid aortic valve** West Bengal (Rivers), W:160 with pic-Olympic Games table on, 0:436 Heart (Blockage of the blood flow),

Skiing (Nordic competitions), \$:467

Bible, The [play by Fry]

Fry, Christopher, F:477

H:108

Teeth (Permanent teeth), B:90

Bicuspid

Bicycle, B:280 with pictures Cycling, Ci:509 Safety (Bicycle safety), S:14 Transportation (Engineless land trans-

portation), T:348 picture on T:357

Tyre (History), T:491

Bicycle motocross race Bicycle (Juvenile bikes), **B:281**

Cycling, Cl:510 Bicycle racing

Cycling, Ci:510

Bicycle tyre pump

Pump. P:855 with picture

Bicycle Wheel (sculpture by Duchamp) Sculpture (Assemblages), S:216 with picture

Biddenden cake

Kent (Local customs and legend), K:219

Biddenden Dole

Kent (Local customs and legend),

Biddina

Bridge [card game], B:567

Biddle, John [English religious leader] Unitarians, U:38

ndet

Bath (Bathing for cleanliness), B:149

Bidonville

Morocco (Way of life), M:612

Biedermeier, B:284

Furniture (The 1800's), F:504 with picture

Blennial (plant), B:284

Annual, A:425

Flower (Garden biennials), F:245 with pictures

Gardening (Selecting the plants), G:36 Plant (Germination), P:560

Weed (How weeds grow), W:131

Bienvenu (French inventor)

Helicopter (Early designs and experiments), H:141

Bierce, Ambrose Gwinett (American writerl, B:284

Bierstadt, Albert (American artist), 8:285

Bife com ovo a cavalo [food] Portugal (Way of life), P:699

Bifilar pendulum

Pendulum (Other pendulums), P:256

Bifocals

Glasses (Prescription glasses), G:202

Big band

Band (Jazz bands), B:74

Jazz (The sound of Jazz), J:73 with pic-

Popular music (The 1900's), P:683

Big bang theory

Antimatter, A:462

Astronomy (Astronomy terms), A:688; (The universe) A:692

Cosmology, Ci:372

Galaxy (The study of galaxies), G:11

Gamow, George, G:26

Big Ben, B:285 with picture Bell (Famous bells), B:227 Westminster, Palace of, W:195

"Big Bertha"

Krupp, Friedrich Alfred, K:336

Big Boys, The: Power and Position in American Business book by

Naderl

Nader, Ralph, N:2

Bia Dipper

Ursa Major and Ursa Minor, U:278

Big-eared fox

Fox (Kinds of foxes), F:379

Big Fisherman, The Inovel by Douglas Douglas, Lloyd Cassel, D:272

Blg Five [United Nations], B:285

Big Four [World War I]

Versailles, Treaty of, V:349

World War I (The Paris Peace Conference), W:375; picture on W:377

Big Four [World War []]

Germany (Occupied Germany), G:137

Big Knockover, The book by Ham-

Hammett, Dashiell, H:32

Big Laugh, The (book by O'Hara) O'Hara, John, 0:417

Big men

Papua New Guinea (Way of life), P:142 Bia Money, The (novel by Dos Passos)

American literature (Realist fiction),

Dos Passos, John, D:271

Big Sleep, The [film]

Hawks, Howard, H:87

Big Story, The book by Westl West, Morris, W:155

Big Three [World War II]

Churchill, Sir Winston (The Big Three), C:509 with picture

Roosevelt, Franklin Delano (The Big

Three), R:390 Stalin, Joseph (World War II), So:269

World War II (The Allies attack in Europe and North Africal, W:388 with picture

See also Cold War

Big top

Circus (At the circus), C:9

Sequoia [The giant sequoia], S:262. with picture

Big wheel

Ferris wheel, F:58

Bigamy, B:285

Marriage (laws concerning marriage), M:218

Bigelow, Erastus B. [American inven-

Rugs and carpets (History), R:452

Bigfoot (legendary creature), B:285

Bigge, John Thomas | Australian settlerl, B:286

Australia, History of (From jail to colonyl, A:801

Queensland (Early settlement), Q:25 Squatters in Australia (Lachlan Macquarte), So:250

Bigger Spiash, A [painting by Hockney] Hockney, David picture on, H:239

Biggles [literary figure] johns, W. E., J:132

Bighorn, B:286 with picture

Bighorn Medicine Wheel

Astronomy picture on, A:695

Bighorn sheep

Animal picture on, A:382

Biglow Papers, The book by Lowell Lowell, James Russell, L:407

Bignonia, B:286 with picture

Biha, Leopold [Burundi political leader] Burundi (History), B:666

Bihar, B:287

Bihzad, Kamal ad-Din [Persian painter], B-291

Islamic art (Books), E421

Million

Bicycle, B:280 with picture Motorcycle, M:651 with picture

Bikini Atoll, B:291 Biko, Steve (black leader), B:291

Bilateral acoustic neurofibromatosis Idisorderi

Neurofibromatosis, N:102

Bilateral symmetry Echinoderm, E:52

Bilateral treaty

International relations (Treaties), 1:294

Bilbao [Spain], B:291

Bildt, Carl [Swedish political leader] Sweden (Recent developments),

So:474

Bildungsroman (work by Goethe) Goethe, Johann Wolfgang von, G:228 Bile, B:291

Digestive system (In the small intestine). D:172 with diagram

Gall bladder, G:15

Human body (The small intestine and large intestine), H:355

Liver, L:333

Nutrition (How the body uses food), N:362

Bilbarziasis

See Schistomiasis

Billrubin

Bile, B:292

Jaundice, J:67

Liver (Purification of the blood), L:334; (Diseases of the liver) 1:335

Bill (document), B:292

Australia, Government of (How a bill becomes a law in Australia), A:792

Canada, Government of (How a bill becomes law in Canada), C:94

Congress of the United States (How Congress makes laws), Ci:283

Bill [economics], B:292

See also list of Related Articles

Bill (police)

See Police Bill [zoology]

Bird, B:349 with pictures

Duck (Two types of duck bills), D:338 with pictures

Bill of Divorcement, A [film]

Cukor, George, Ci:488 Bill of exchange [banking], B:292

Draft. D:279 Bill of health, B:292 Bill of lading, B:292

Bill (In transportation), B:292

Negotiable instruments (Forms), N:69 metic) N:346 Bill of rights [document], B:292 Binary code [computer] England (The Restoration), E:279 Parliament (Parliament gains strength), and instructions). Cl:258 P:192 United States, History of the, U:243 Bill of sale, B:293 ics). E:185 Binary fission Biflabong (lake, Australia), B:293 Bacteria (How bacteria reproduce), Billabong [books by Bruce] B:21 with picture Bruce, Mary Grant, B:596 Billboard duction), R:223 Advertising picture on, A:61; (Outdoor Binary form signs) A:62 Classical music (Simple forms), Ci:58 Poster. P:716 Binary star, B:296 Ullet Aluminium (Casting the molten aluminium), A:292 B:375 Brass (Making brass), B:524 Extrusion, E:434 with diagram E:23 Iron and steel (Ingot casting), 1:395 with diagrams ativity), G:309 Wire (How wire is made), W:277 with Lvra. L:428 diagram Nova. N:310 Billfish Star (Star terms), So:280; (Double Gar. G:32 **Billiard** table Binary star system Billiards and snooker (Equipment), Supernova, So:428 B:294 with picture Binary system Billiards at Half-Past Nine (book by Bölli Böll, Heinrich, B:431 German literature (Postwar German lit-Numeration systems (Kinds of numeraerature), G:110 Billards (game) metic N:346 Billiards and snooker, B:293 with pic-Binaural hearing Ear (How sounds reach the brain), E:10 Billingsgate (England), B:295 Binder (agriculture) Billion, B:295 Reaper, R:161 Decimal system (The decimal system Binder [paint] and number words). D:68

Billroth, Theodor (surgeon) Surgery (History), So:439

Billy Budd, Sallor [book by Melville] Melville, Herman (His later life), M:340 Billy Budd [film]

Ustinov, Sir Peter, U:286 Billy Budd (opera by Britten) Britten, Benjamin, B:582

Billy goat Goat. G:221

Billy the KId [American cattle thief], B:295 with picture Billy the Kid imusic by Copland

Copland, Aaron, Cl:340 **Biltong** [food]

Pemmican, P:250 Bimbisara lancient kingl Bihar (History), B:289 Bimetallic strip

Thermostat (How thermostats work).

T:218 with picture **Bimetallic thermometer**

Thermometer (Deformation-type thermometers), T:215 Binaburra, B:295

Binaiya, Mount Indonesia (The Moluccas), I:190 Binary arithmetic

Numeration systems (Kinds of numera-

tion systems), N:344; (Binary arith-Computer (Entering and encoding data Electronics (Terms used in electron-Reproduction (Through asexual repro-

Black hole (Evidence for black holes),

Earth (The birth of the solar system),

Gravitation (Predictions of general rel-

stars) So:282; (Binary stars) So:286

Computer (How a computer operates). Ci:256; (How a computer works)

tion systems), N:344; Binary arith-

Painting (Painting materials), P:38

Binding energy Nuclear energy (Atoms and nuclei), N:320

Bindweed, B:296 with picture Binet-Simon intelligence test

Binet, Alfred, B:296 Terman, Lewis Madison, T:155

Binet, Alfred (French psychologist).

Graphology, G:301

Hypnotism (Scientific studies), H:415 Intelligence quotient (History), 1:278 Bingen [Germany]

Mouse Tower, M:677

Bingham, George Caleb (American painter], B:296 with picture

Bingo [game], B:296 Binocular vision

Bintje

Eye (Depth perception), E439 Binoculars, B:297

Binomial [mathematics] Algebra (Other definitions), A:256 Binomial nomenclature

Botany (The development of modern botany), **B:480**

of classification), Ch66 Binomial theorem [mathematics], B:297

Classification, Scientific (The language

Biological response modifier ther apy

Binvon, Laurence British poetl, B:298 Bioanthropology Anthropology (Physical anthropology) Biochemical oxygen demand (BOD) Water poliution (Effects), W:89

Binturong, B:298 with picture

Potato, P:718

Biochemistry, B:298 Biology (table), B:305

Chemistry (Current research), C:372 Physiology, P:481 Science (Physiology), S:140

Bloconversion Biomass, B:310

Energy supply (Solid wastes), E:249 Blodiversity biological term

Animal (Destruction of the habitat). A:412 Biodiversity, B:299

Bloelectrochemistry Electrochemistry, E:174 Blofeedback, B:299

Headache (Migraine), H:93 Motion sickness, M:648

Biogenesis (biology), B:300 Huxley, Thomas Henry, H:392

Biogeographic realm

Bird (The distribution of birds), B:319 Biogeography

Evolution (Geographic distribution of species), E:410

Geography (Divisions of geography), C:AU

Biographia Literaria (book by Coleridge

Coleridge, Samuel Taylor (His writing). CE:162

Blographical dictionary Dictionary (Specialized dictionaries), D:164

Biography (nonfiction) Literature (Forms of Literature), L:313

Biography, B:300 See also list of Related Articles

Bioinstrumentation

Biomedical engineering (Areas of biomedical engineering), B:312

Bioko [island, Equatorial Guinea]

Equatorial Guinea, E:315 with map **Biological anthropology**

Anthropology (Physical anthropology),

A:451 Biological clock, B:302

Biological concentration Pesticide (Pesticides and the environment). P:319

Biological control

Insect, 1:247 Weed (Weed control), W:131

Biological diversity Biodiversity, B:299

Biological evolution Archaeology (The 1800's), A:504

Biological oceanography Marine biology (Biological oceanographers), M:210

Cancer (Other treatment), C:122 Biologicai science Science (The life sciences), S:140 **Biological** shield Nuclear reactor, N:334 Biological time Time (Scientific ideas about time), **Biological** warfare Chemical-biological-radiological warfare, C:364 **Biological Weapons Convention** [1975] Disarmament (History), D:186 Biology, B:304 with pictures See also list of Related Articles Classification, Scientific, Ci:66 Dream (The biology of dreams), D:305 Ecology, E:55 Exobiology, E:415 Isotope diagram on, I:428 Life, L:245 Marine blology, M:209 with pictures Molecular biology, M:532 Radiocarbon (Radiocarbon in biology), Regeneration, R:187 Science (The life sciences), S:140 Sociobiology, So:10 Bioluminescence, B:310 Beetle (Fireflies), B:200 Dinoflagellate, D:174 Firefly, F:138 Lanternfish, L:56 Toadfish, T:269 with picture Biomass, B:310 Ecology (Energy flow), E:57 Fuel, F:477 Fuel (Solid fuels), F:478 **Biomaterials** Biomedical engineering, B:312 Blome, B:310 with map See also list of Related Articles Ecology (Communities), E:56 Plant (Where plants live), P:546 **Biomechanics** Biomedical engineering, B:312 Biomedical engineering, 8:312 with picture See also list of Related Articles Engineering, E:254 Bionics, B:313 Biophile Geochemistry, G:86 Biophysics, B:313

Biology (table), B:305

Oncology, 0:451

Biological clock, B:302

ment). L:246

Biosynthesis, B:314

Krebs cycle, K:333

Biotechnology, B:314

Blorhythm, B:313

Biopsy, B:313

Biosphere

Science (Physiology), 5:140

Cancer (Final diagnosis), C:122

Earth (The earth's surface), E:19 Life (Living things and their environ-

Biology, B:304 **Biotic environment** Environment, E:298 Rictin Nutrition (Vitamins), N:364 Vitamin (Vitamin B complex), V:410; (table) V:412 Biotite Glauconite, G:204 Mica, M:432 Biplane Aeroplane, A:75 Aviation picture on, A:883 Bipolar disorder Brain (Brain chemistry and mental illness), B:516 **Bipolar lunction transistor** Electronics (Solid-state components), E:189 **Bipolar system** Balance of power, B:37 Birch, B:314 with pictures Tree picture on, T:384 Wood picture on, W:299 Bird. B:315 with pictures See also list of Related Articles Animal (A table of animal intelligence), Animal (Adaptations for sensing the environment), A:401 Animal (Animal migration), A:410 with picture; (Dangers of migration) A:411 Animal (Chemical defences), A:404 Animal (Courtship behaviour), A:405 Animal (Incubation), A:406 with picture Animal (Providing food), A:406 Animal (Wings), A:396; (Fins, tails and flippers), A:398 Archaeopteryx, A:506 Audubon, John James, A:741 with pic-Australia (Native animals), A:768 with pictures Ear (The ears of animals), E:13 Earth (The Mesozoic Era), E:27 Eye picture on, E:443 Pet (Pets for the home), P:319 picture on P:322 Prehistoric animal, P:746 Reproduction, R:224 Skin (Animal skin), \$:471 Zoo, Z:502 with pictures "Bird" [sculpture by Frink] Frink, Dame Elisabeth, F:461 with pic-Bird in Space (sculpture by Brancusi) Sculpture (As artistic expression), S:189; (Modern international sculpture) S:215 with picture **Bird louse** Louse, L:403 **Bird** migration Bird, B:337 **Bird** nest Bird (Building a nest), B:345 Bird of Dawning, The work by Mase-

Masefield, John, M:241 Bird of paradise, B:360 Animal (Courtship behaviour), A:405 Bird picture on, B:315 Bird-of-paradise flower, B:361 Bird Park lakarta picture on, J:15 Bird ringing Bird. B:355 with picture Bird sanctuary Bird (Bird sanctuaries), B:355 Bird spider Tarantula, T:43 Bird-watching Bird. B:354 Bird, Nancy (British pilot), B:360 Bird, Vere Cornwali (Antiguan prime minister) Antiqua and Barbuda (History), A:461 Birdbanding Bird (Bird ringing), B:355 with picture Birdcatching spider, B:361 Birdlime Banyan tree, B:98 Birds' eggs Egg, E:97 with pictures Birds Fall Down, The book by Westl West, Dame Rebecca, W:156 Bird's-nest soup, B:361 Swift, So:479 Birds of America (work by Audubon) Audubon, John James, A:741 Birds of Australia, The book by Gouldl Gould, John, G:266 Birds of prev Bird (Kinds of food), B:339 Buzzard, B:693 with picture Caracara, C:184 with picture Condor, Cl:274 with pictures Eagle, E:2 with picture Falcon, F:12 with pictures Harpy eagle, H:66 with picture Harrier, H:66 with picture Hawk, H:83 with pictures laeger, J:10 with picture Kestrel, K:239 Kite, K:290 with pictures Lammergeier, L:35 with picture Osprey, 0:512 with picture Owl. O:528 with pictures Roadrunner, R:299 Secretary bird, \$:233 with picture Sparrowhawk, So:201 with picture Vulture, V:429 with pictures Birdseye, Clarence American businessmanl, B:361 Food, Frozen, F:302 Food preservation (Modern food preservation), F:308 Invention (Social needs), 1:311 Birdsfoot trefoll, B:361 with picture Birdstone Sculpture (Indian sculpture of the Americas), S:205 Birdsville (Australia), B:361 Birdwhistell, Ray L. (American anthropologisti

Communication (The study of nonver-

Bireme bal communication), Ch237 Kinesics, K:253 Bireme Galley, G:16 Birendra [king of Nepal] Nepal (History), N:77 Birgitta, Saint See Bridget, Saint Birir, Matthew [Kenyan athlete] Olympic Games picture on, 0:441 **Birkbeck College** Birkbeck, George, B:362 Birkbeck, George [British doctor], Birkenhead [England] Merseyside, M:366; (Places to visit) M:360 Birkenhead, Lord [British lawyer], B:362 with portrait Birkett, Lord [British barrister], B:362 with portrait Birkett, William Norman See Birkett, Lord Birkhoff, G. D. [American mathemati-Geometry (Axiomatic organization), C:95 Birling, B:362 with picture Canada, C:170 with picture Birmingham [England], B:362 with pictures and map See also list of Related Articles West Midlands, W:173 World War 11, W:378 Birmingham (U.S.A.J. B:366 **Birmingham Repertory Theatre** Birmingham picture on, B:365 Birmingham, George A. (Irish author), B:366 Birney, James G. Abolition movement, A:13 Biro, Lazio [Hungarian inventor] Pen (History), P:251 Birth and death rates, B:366 Birth control (The birth control movement), B:367 Population, P:684 Sex ratio, 5:292 Vital statistics (Using vital statistics), Birth Baby (Birth), B:4 with pictures Birth control, B:367 Birth defect, B:368 Childbirth, C:411 Citizenship, Cl:15 Multiple birth, M:693 Placenta, P:531 Premature birth, P:761 Reproduction, Human, R:229 with pictures **Birth certificate** Genealogy, G:75

Birth chart

Birth control, B:367

Astrology (Principles of astrology),

Hormone (Uses of hormones), H:280

A:680 with picture

Famine (Fighting famine), F:25

Parent (Changes in parenthood), P:173 Pet (Taking care of pets), P:323 Sex (Marriage and the family), S:291 Women's movement, W:296 Birth control pill Birth control (Methods of birth controi), B:367 Cancer (Carcinogenesis), C:120 Drug (Hormones), D:313 Hormone (Medical uses), H:280 Birth defect, B:368 See also list of Related Articles Blindness, B:388 Dislocation, D:199 Ear (Birth defects), E:12 Heart (Birth defects), H:108 Birth of Tragedy, The book by Nietz-Nietzsche, Friedrich, N:202 Birth rate Baby table on. B:10 Birth and death rates B:366 Birth control, B:367 Birth ritual Maoris, M:176 Birthday honours Decorations, medals and orders, D:73 Birthmark, B:369 Laser (Heating), L:71 Mole, M:531 Birthstone, B:369 Bis pole Sculpture (Pacific Islands sculpture), S:204 with picture Biscay, Bay of See Bay of Biscay Biscoe, John [English explorer], B:370 Antarctica (Early exploration), A:442 Enderby Land, E:243 **Biscuit** Record player (How gramophone records are made), R:165 **Bisection** Geometry (Some basic geometric constructions), G:96 with diagrams Bisexual AIDS (How HIV is transmitted), A:179 Botany (table), B:481 Homosexuality, H:258 Bishkek, B:370 Bishop (chess) Chess (The board and the men), C:382 with diagram; (The moves) C:383 Bishop [office], B:370 Address, Forms of, A:41 Cathedral (Organization of a Cathedrai). C:260 Church of England (Structure), C:502 with picture; (Church government) Eastern Orthodox Churches (Clergy), F:48 Hat picture on, H:76 Lutherans, L:420 Roman Catholic Church, R:338 Vatican Council II (The work of the council), V:318 Bishop, Elizabeth [American poet] American literature (Poetry), A:319

Bishop's Bonfire, The [play by O'Casev] O'Casey, Sean, 0:383 Bismarck Archipelago, 8:370 Bismarck, Otto von Prussian statesmanl. B:370 See also list of Related Articles Franco-Prussian War (Events leading up to the war), F:423 Germany (The unification of Germany), G:133 Junkers, J:170 Napoleon III (His defeat), N:24 Prussia (German empire), P:823 Seven Weeks' War, S:279 World War I (The Triple Alliance), W:365 Bismarck [ship], B:370 Aircraft carrier (History), A:206 Bismuth [element], B:371 Buffalo, B:623: (Protection of bison) Conservation (North America), Ch301 Bison with turned head Sculpture (Prehistoric sculpture), \$:194 with picture **Bisque dolls** Doll (China dolls), D:246 with picture Bissau (Guinea-Bissau), B:371 Guinea-Bissau, G:416 with picture Bit (computer) Computer (table), C:257 Electronics (How electronic circuits process information), E:190 Information theory, I:233 Bit [horse riding] Horse (The bridle), H:295 Bit Itool Drill (Metal drills), D:308 Petroleum (Methods of drilling), P:343 with picture Woodworking (Cutting), W:307 öltch Dog (The life of a dog), D:236 Mite First aid, F:144 Mosquito (How a mosquito bites), M:634 with diagram Bithynia (ancient country), B:371 **Bitter cassava** Cassava, C:229 Bitter root, B:371 **Bitter** rot Rot. R:405 Bitter Sweet [play by Coward] Coward, Sir Noel, Cl:404 Bittern, B:371 with picture Bitternut, B:372 with picture **Bitternut** hickory Hickory, H:191 Bitterroot, B:371 Bitters, B:372 Bittersweet, B:372 with picture Solanum, So:22 Bitumen, B:373

Bituminous sands, B:373

Synthetic fuel, So:518

Road (Paving), R:297 with picture

Sculpture (The first sculptors), S:192

Painting (Greek painting), P:47 with

Bituminous coal Bitumen, B:373 Coal (Uses of coal), Ci:121 Fuel (Solid fuels), F:478 Heating (Coal), H:128 Illinois, 1:31 Rituminous macadam Road (Paving), R:297 Bituminous sands, B:373 Energy supply, E:248 Fuel (Synthetic liquid fuels), F:478 Petroleum (The United States and Canada), P:338; picture on P:340 Synthetic fuel, So:518 Rivalve Mollusc (Kinds of molluscs), M:535 Oyster (The body of an oyster), O:539 Shell, S:346; diagram on S:343; pictures on S:345 Bivouac of Travellers in Australia in a Cabbage Tree Forest at Day Break, A [painting by Earle] Australia, Art and architecture of (Co-Ionial painters), A:782 Bizerte [Tunisia], B:373 Bizet, Georges [French composer], Opera (Carmen), O:468 Bizzozero, Giulio (Italian biologist) Blood (History of blood research), B:400 Bjelke-Petersen, Sir Johannes (Australian statesmanl, B:373 Bjerknes, Vilhelm (physicist) Air (The study of air), A:186 Meteorology (History), M:382 Weather (Scientific advances in the 1900's), W:122 Bjoerling, Jussi [Swedish singer], B:373 Bjørnson, Bjørnstjerne (Norwegian poetl, B:373 Bk [symbol] Berkelium, B:245 Blaby [England], B:374 Black African language Africa (Languages), A:123 Language (Language families), L:52 **Black Africans** Africa (The African geographical race), A:122 **Black Americans** New York City (Ethnic groups), N:147 United States (People), U:194 Black and tan coonhound, B:374 Black and Tans, B:374 Ireland, History of (The War of Independence), 1:376 United Kingdom, History of the (Irish affairs), U:150 Black-and-white film Photography (Exposing the film), P:442; (Developing the film) P:442 with pictures Black Arts movement American literature (Poetry), A:319 Black-backed jackal Jackal, J:4 Black-backed magpie

Magpie, M:61

Bass (Freshwater bass), B:141 Black bear Bear (Kinds of bear), B:169 with pic-Black Beauty (book by Sewell) Sewell, Anna. S:285 Black beetle Cockroach, Ci:142 Black-bellied hamster Hamster, H:37 Biack See Colour Black-billed cuckoo Cuckoo, Ci:486 with picture Black body [physics] Planck, Max Karl Ernst Ludwig, P:532 Black Book, The book by Durrell Durrell, Lawrence, D:356 Black box Eucalypts picture on, E:348 Black Boy book by Wright Wright, Richard, W:419 Black bread mould Fungi picture on, F:486 Mould, M:653 Black bream Fish picture on, F:159 Black bullhead Bullhead, B:642 **Black Caribs** Honduras (People), H:259 Black codes [American history], B:374 Reconstruction, R:162 Black comedy Idramal Literature (Forms of Literature), L:312 Black Coolins [mountains, Scotland] Cuillan Hills, Cl:488 Black cottonwood Cottonwood, Ci:390 Black Country (England), B:374 Black crappie Bass (Freshwater bass), 8:141 **Black Death** Bubonic plague, B:605 Cat (History), C:254 Dancing (The Middle Ages), D:26 Europe (The Middle Ages), E:385 Great Plague, G:324 Iceland (History), 1:23 Jews (Jews in Christian Europe), J:114 Medicine (The Middle Ages), M:314 Middle Ages (A halt in progress), Wycliffe, John, W:425 Black dwarf star [astronomy] Sun (How long will the sun shine?), So:413 Black experience, The American literature (Poetry), A:319 Black-eyed bean Cowpea, Cl:410 Black-eyed pea Cowpea, Ci:410 Black-eyed Susan, 8:374 with picture Rudbeckia, R:442 Black fever [disease]

Kala-azar, K:180

Black figure style

picture Black fly Fly (table), F:279 Gnat. G:217 **Black-footed ferret** Ferret, F:57 with picture Black Forest, B:374 Europe picture on, E:377 Germany, G:125; picture on G:126 Black fox Fox (Kinds of foxes), F:379 Black ground beetle Beetle picture on, B:199 **Black grouse** Grouse, G:386 with picture Black haw, B:375 Black Hawk (Sauk Indian chief), B:375 Black Hawk War [1832] Black Hawk, B:375 Indian wars (Other Midwestern conflicts), I:174; map on I:176 lowa, 1:328 Black heliebore Hellebore, H:144 Black hole, B:375 with picture Astronomy (Astronomy terms), A:688; (Stars) A:690 Binary star, B:296 Hawking, Stephen William, H:86 Milky Way (The centre of the galaxy), M:471 Star (Star terms), So:280; (Black holes) Sn:286 Supernova, So:428 Telescope (X-ray telescopes), T:115 Black homelands South African homelands, So:87 with map Black huckleberry Huckleberry, H:337 with picture Black humour Novel (After World War II), N:314 Satire, S:99 Black jewfish lewfish, J:111 Black Jews (people) Ethiopia (People), E:338 Black kangaroo paw [plant] Kangaroo paw, K:189 Black kite Kite, K:290 with picture Black Knight, The imusic by Elgar Elgar, Sir Edward William, E:210 Black Lamb and Grey Falcon (book by West West, Dame Rebecca, W:156 Black Land Egypt, Ancient, E:120 Black Line Australia, History of (The Black Line), A:805 Tasmania (History), T:61 Black locust [plant] Locust, L:357 with picture Black lung idisease), B:376

Coal (Concentrations of coal dust),

Cl:131

Black magic

Black Rod [title], B:376

Tobacco (Diseases and pests), T:271

Blackfish, B:379 with picture

Fish picture on, F:161

Black root rot

Rot, R:405

Black sea bass

Black Sea, B:376

Dardanelles, D:33

Black rot

Romania (Recreation), R:351 with pic-C:369 Magic (Kinds of magic), M:45 ture; (Land and climate) 1:352 Blackbeard (British pirate), B:378 Black mamba Blackberry, B:378 with picture Black shank Snake (Methods of movement), S:510; Tobacco (Diseases and pests), T:271 Boysenberry, B:504 picture on S:515 Bramble, B:522 Black Shirt [!talian history], B:377 **Black Maria** Dewberry, D:149 Edison, Thomas Alvar (Inventor-Fascism. F:29 Italy (Italy under Mussolini), 1:470 industrialist of West Orange), E:81 Blackboy, B:379 Black market, B:376 Mussolini, Benito, M:745 Black skimmer Rationing, R:144 Black marlin Bird picture on, B:340 Marlin, M:215 with picture Black smoker (oceanography) Ocean (Discoveries), 0:400 A:448 Black Mask [magazine] Black snake, B:377 Detective story (History), D:136 Black Soul, The [book by O'Flaherty] Hammett, Dashiell, H:32 Black Mischief (book by Waugh) O'Flaherty, Liam, 0:416 neerl, B:379 Waugh, Evelyn, W:103 Blackhutt Black stem rust **Black Monday** Barberry, B:106 Monday, M:545 Plant (Diseases), P:567 with picture Blackcap Rust. R:504 Black Moth, The (book by Heyer) Heyer, Georgette, H:188 Black swallower Blackdamp **Black Mountain poets** Fish picture on, F:152 Damp. D:18 American literature (Poetry), A:319 Black swan, B:377 with picture Black mulberry Swan (Kinds), So:456; picture on B:379 Mulberry, M:689 with picture So:455 Black Muslims, B:376 Black-tailed deer by Robinson) Malcolm X, M:111 Mule deer, M:690 Muhammad, Elijah, M:688 Black-tailed godwit Religion (Religion today), R:205 Godwit, G:226 Black mustard Black-tailed jack rabbit Mustard, M:746 Jack rabbit, J:3 with picture Blackboot Black Opal [novel by Pritchard] Black-tailed prairie dog Acne. A:24 Prairie dog, P:738 with picture Australia, Literature of (Modern nov-Pimple, P:502 els), A:832 Pore. P:691 Black pepper Tea (Processing tea), T:79 Pepper, P:269 with picture Black tern Blackled **Black powder** Tern. T:157 Gunpowder, G:429 Black Thunder (book by Bontemps) Blackmall, B:380 **Black Power** Bontemps, Arna Wendell, B:452 Extortion, E:432 Cleaver, Eldridge, Ci:72 Black Thursday [U.S. history] King, Martin Luther, Jr. (The growing Great Depression (The stock market B:380 movement), K:254 crash). G:317 See also Black Muslims Black tit Blackout **Black Prince** Tit. T:264 Edward [Black Prince], E:93 **Black tupelo** vice), E:160 Black prince linsect Tupelo, T:446 Cicada, Cl:1 **Black turnstone** Black Prince's Ruby Turnstone, T:471 Blacks [people] Crown jewels.(Crowns), Ci:459 with Black Volta [river] picture Burkina Faso (Land), B:654 Black rail **Black walnut** Crake, Cl:413 Wainut, W:26 Black rat **Black War** R:43 Rat, R:141 with picture Tasmania (History), T:61 Racism, R:51 Black Reconstruction in America **Black wattle** (work by Du Bois) Wattle, W:102 with picture Du Bois, W. E. B., D:334 Black widow spider, B:377 with pic-Black right whale ture Whale picture on, W:204 (Kinds of ba-Animal (Courtship behaviour), A:405 leen whales) W:206 Redback spider, R:175

Spider picture on, So:218; (Tangled

Black, Davidson (Canadian anatomist),

Black, Joseph (Scottish doctor), B:374

Chemistry (The phlogiston theory),

weavers) So:223

Woodpecker (Kinds), W:306

Black willow

B:374

Willow, W:259

Black woodpecker

Blackbird, B:378 with picture Blackbuck, B:379 with picture Animal picture on, A:384 Antelope (Habits and appearance), Blackburn [England], B:379 Blackburn, James [Australian engl-Eucalypts, E:351 Warbler (Old World warblers), W:37 Blacket, Edmund [Australian architect], Black-feller, White Feller(1958) [poem Australia, Literature of (Modern poetry), A:833 Blackfish, B:379 with picture Dolphin (Other species), D:252 Skin (Other skin disorders), 5:471 Cattle (Diseases), C:276 Blackman, Charles [Australian artist], Blackmore, R. D. [British author], B:380 Electric power (Providing reliable ser-Blackpool (England), B:381 Blackpool Tower picture on, B:380 Africa (The peoples of Africa), A:122 with picture North America (Ancestry), N:250 Races, Human (The three-race theory), Segregation (Racial segregation in the United States), S:239; (Segregation in other countries) S:240 Slavery (The Middle Ages), S:480 Blacksmith, B:381 Country crafts (Farriery), Ci:393 Forging, F:361 with picture Blackstone, Harry Jr. American illusionist

Magician (Illusions), M:48

yerl, B:381 with portrait

Prison (Early prisons), P:790

Blackthorn, B:381 with picture

M:50

Blackstone, Sir William [English law-

Magna Carta (The charter after 1215),

Sloe. S:488

Blackwell, Antoinette Brown [American religious leader), B:381 with portrait

Blackwell, Elizabeth [American doctor], B:382

Blackwood

Rosewood, R:402

Blackwood, Algernon [British author],

Bladder (anatomy), B:382

See also Gall bladder

Kidney (How the kidneys produce urine), K:244

Bladderwort, B:382 with picture Blade

Knife, K:297 with pictures Razor, R:148 with pictures

Scissors, S:153 with pictures Sword, Sp:502 with pictures

Blade [botany]

Grass (The grass plant), G:301 Leaf (The parts of a leaf), L:128 with picture

Plant (Leaves), P:554 with pictures Blaenau Gwent [local government dis-

trict, Wales], B:383

Blaenavon [Wales]

Gwent (Places to visit), G:437

Blair, Bonnie | American skating championl

Olympic Games picture on, 0:437

Blair, Eric Arthur

Orwell, George, 0:507

Blair, Tony [British politician], B:383 with portrait

Blake, Nicholas

Day-Lewis, Cecil, D:52

Blake, Robert (English soldier), B:383 Blake, William (English poet), B:383

with picture

Engraving (History), E:297 Puck picture on, P:845

Romanticism (The qualities of romanticism), R:360

Blakelock, Ralph Albert (American artist], B:383

Blamey, Sir Thomas [Australian soldierl, B:384 with portrait

Bianc de noir

Wine (Table wines), W:273

Blanc, Mont

See Mont Blanc

Blanchard, Jean-Pierre (French aviator], B:384

Balloon (The growth of ballooning), 8:64

Blanchard, Madeleine-Sophie American balloonist]

Balloon (The growth of ballooning), D:64

Blanche Cave

Naracoorte Caves, N:24 Blanche of Lancaster [wife of]

John of Gaunt, J:130 Lancaster, L:42

Blanchette [play by Brieux] Brieux, Eugène, B:570

Blanching, B:384

Dehydrated food, D:89

Food preservation (Freezing), F:307

Bland, James A. [American composer], 11:384

Blandrata, George (Italian doctor) Unitarians, U:38

Blank verse [poetry]

Literature (Forms of Literature), L:313

Blank verse [poetry], B:384

Drama (Elizabethan playwrights),

Poetry (table), P:611; (Forms) P:614 Surrey, Earl of, So:445

Blanket

Insulation (Insulation for heat flow control), 1:269 with picture

Blanket fidelity bond

Bonding, B:445

Blanket primary

Primary election (Open and closed), P-777

Blanket-to-blanket press

Printing (Offset presses), P:784 picture on P:783

Blanketflower

Gaillardia, G:7

Blantyre [Scotland]

Strathclyde Region (Places to visit), So:347

Blarney Stone [ireland], B:384 with pic-

Blasco Ibáñez, Vicente (Spanish author), B:384

Spanish literature (The 1800's), So:195

Blasphemy

lesus Christ (The trial), J:100

Blast furnace

Iron and steel, 1:390 with picture Lead (How lead is obtained), L:125 Metallurgy (Smelting), M:376 Smelting, S:497

Blast wave

Nuclear weapon, N:336

Biasting agent

Explosive, E:430

Blasting

Dynamite, D:365

Explosive, E:430

Quarrying (Explosive method), Q:8

Blasting cap [explosives]

Dynamite, D:365

Blasting gelatin [explosives]

Dynamite (Kinds of dynamite), D:365

Blastocyst [biology]

Embryo (Human development), E:227

Blastomycosis

Fungal disease, F:485

Blastula [biology]

Embryo (Human development), E:227

Blatch, Harriot Eaton Stanton [American social reformer), B:385 with por-

Blaue Reiter, Der [painting by Klee] Expressionism (Expressionist painting), E:431

Germany picture on, G:123 Kandinsky, Wassily, K:184

Klee, Paul, K:295

Painting (Expressionism), P:80 with

pictures

Blavatsky, Elena Petrovna (American philosopherl

Theosophy, T:214

Blaxland, Gregory [Australian pioneer], B:385

Blazing star, 8:385

Blazonry

Heraldry (Expansion), H:160

Bleach, B:385

Chlorine (Uses of chlorine), C:475 Hydrogen peroxide, H:405 Hypochlorous acid, H:416

Bleaching

Cotton (Finishing), Ci:387

Flour (How white flour is milled), F:238; diagram on F:237

Bleak House [England]

Kent (Places to visit), K:221

Bleeding, B:386

Artery, A:605

Blood (Controlling bleeding), B:397;

(Bieeding disorders) B:400 First aid (First aid for bleeding), F:142

Haemophilia, H:5

Haemorrhage, H:6

Menstruation, M:349 with diagrams Tourniquet, T:313

Bleeding heart, B:386 with picture

Bleeding heart pigeon

Pigeon, P:495 picture on P:496

Blend (fabric)

Clothing (Clothing materials), Ci:106 Textile (Making the yarn), T:172 with pictures

Blend (language)

Language (table), L:51

Slang (Blends), S:479

Blended yarn Textile (Making the yarn), T:172

Bienheim Palace

Architecture (Baroque architecture), A:528

Brown, Capability, B:591 with picture Churchill, Sir Winston (Boyhood and education), C:506 with picture

Oxfordshire (Places to visit), 0:534 Stately homes of Britain and Ireland,

So:300

Vanbrugh, Sir John, V:306

Blenheim spaniel

King Charles spaniel, K:255

Blenhelm, Battle of, B:386

Blenny

Fish picture on, F:151 Blériot, Louis [French aviator], B:386 Aeroplane (table), A:78; picture on A:79; (Other pioneer planes and

fliers) A:80

Bless the Bride [work by Herbert] Herbert, Sir Alan Patrick, H:161

"Blessed Damozel, The" (poem by Rossetti]

Rossetti, Dante Gabriel, R:404

Blessed Virgin Mary

Mary Imother of Jesus), M:236 **Blickling Hall** [England]

Norfolk (Places to visit), N:241

Bligh, William (British naval officer and

London (Destruction from the air),

World War II (The Battle of Britain),

L:374 with picture

W:385 with pictures

Phlebitis, P:427 Blitzkrieg (World War II), B:391 colonial governorl, B:387 with por-Stroke (Causes), So:358 Army (Armies in the two world wars), **Blood components** A-KQK Australia, History of (The foundation of Germany (World War II), G:137 Blood (Destruction of worn-out blood Australia (1788-1850)), A:798 (The World War II (The invasion of Poland), components), B:398 New South Wales Corps) A:801; Blood (Formation of new blood com-(The Rum Rebellion) A:801 14/-382 ponents), B:398 Blixen-Finecke, Karen Fili (History), F:78 Blood (Replacing worn-out blood Macarthur, John (Disrupting politics), Dinesen, Isak, D:173 components), B:397 Blizzard, B:391 Mc4 **Blood composition hormones** Weather (Winter storms), W:116 Rum Rebellion, R:455 Hormone, H:278 Tonga, T:293 Rinar Blood count, B:401 Cattle (Diseases), C:276 Blight (plant disease), B:387 Blood (Blood tests), B:399 Bloater Apple (Pests and diseases), A:478 **Blood disorders** Cotton (Care during growth), Cl:385 Herring (Uses), H:183 Blood, B:399 Famine (Plant diseases and pests), F:24 Block and tackle, B:391 with pictures **Blood donor** Block book Fungicide, F:487 Illustration (Printed illustrations), 1:34 Blood (Blood groups), B:398 Ireland, History of (The Great Famine), Blood transfusion (How blood is col-Block caving 1:374 Lily, L:276 Mining, M:494 lected and stored), B:402 Pear (Diseases), P:232 Block ice **Blood fluke** Flatworm, F:222 Potato (Diseases and insect pests), ice (How ice is manufactured), I:5 Block printing, B:392 with picture **Blood** aroup Book (The development of printed Blood, B:398 Blight, John [Australian writer] Australia, Literature of (Modern short books), B:455 with picture Races, Human (The clinal approach), stories), A:832 Hokusai, H:243 with picture 60/44/5 Japanese print, J:64 with pictures Blood Knot, The [play by Fugard] Bilmp, B:387 Fugard, Athol, F:480 Airship, A:217 Printing (History), P:786 Balloon, B:60 Woodcut, W:304 with pictures **Blood knot** Blimp, Colonel [cartoon character], World, History of the (China), W:345 Fishing (Two basic fishing knots) pic-R:387 ture on, F:185 with picture Blind, The work by Maeterlinckl Blockade, B:392 Blood libel Maeterlinck, Maurice, M:39 **Biocking antibodies** Jews (Jews in Christian Europe), J:114 **Blind Harry** (Scottish poet) Allergy (Diagnosis and treatment), **Blood** orange Scottish literature (1300-1500), S:176 A:274 Orange, 0:482 **Blind snake** Blocking **Blood poisoning, B:401** Snake, S:516 Boxing picture on, B:497 **Blood pressure, B:402** Bilnd spot, B:387 Bloemfontein [South Africa] B:392 Brain (Stroke), B:517 Heart (Invention of new medical instru-Eye (Parts of the eye), E:435 Free State, F:430 picture on F:432 Blindfish, B:387 with picture **Blood** bank ments), H:111 Blinding of Samson (painting by Rem-Heart (Regulating blood pressure), Blood (Blood transfusions), B:399 brandt) Blood, B:393 with pictures H:104 Rembrandt (Early Amsterdam years: See also list of Related Articles Hypertension, H:412 1632-1640), R:210 Circulatory system, Ci:6 **Blood-red** starfish Blindness, B:388 Galen, G:11 Animal picture on, A:394 See also list of Related Articles Blood River, Battle of | South African Heart (Pumping blood throughout the Braille, B:509 body), H:103 history] Braille, Louis, B:510 Human body (The circulatory system), Natal, N:28 Eye (Diseases of the eye), E:441 H:356 with diagram **Blood test** Blindstitch Liver (Purification of the blood), L:334 AIDS (Diagnosis), A:180 Sewing (Hand stitches), S:286 with dia-Allergy (Diagnosis and treatment), Serum, \$:272 Space exploration (Protection against A:274 Blindworm, B:390 with picture the dangers of space), So:135; Blood, B:399 with picture Blini [food] (Microgravity) So:135 Blood count, B:401 Russia (Food and drink), R:471 Thalassaemia, T:185 **Blood transfusion, B:402** Bliss, Sir Arthur (British composer), AIDS (How HIV is transmitted), A:179 Blood-brain barrier B:390 Brain (How the brain is protected), Blood, B:399 Bilster 8:512 Hepatitis (Viral hepatitis), H:157 Glass (Glass terms), G:200 Blood cell Intravenous injection, 1:299 Blister (disorder), B:390 Blood picture on, B:394 Medicine (The medical revolution), Blithe Spirit [play by Coward] **Blood clot** M:317 Blood (Controlling bleeding), B:397 Coward, Sir Noel, Ci:404 Rh factor, R:249 Blithedale Romance, The book by Circulatory system (Disorders of the Thalassaemia, T:185 Hawthornel circulatory system), Ci:8 Blood vessel (anatomy) Hawthorne, Nathaniel, H:88 Coagulant, Ci:118 Artery, A:605 with picture Blitz (World War II), B:390 Embolism, E:226 Blood, B:393

Fibrin, F:69

Heart (Coronary artery disease), H:104;

Mitral valve prolapse, M:521

(Heart attack) H:106 with diagrams

Brain (How the brain is protected),

B:512

Capillary, C:143

Circulatory system, Cl:7

Heart, H:102 with picture Human body (The circulatory system), H:356; (Trans on three nsional picture) H:353 Vein, V:324 Bloodhound, B:403 Dog picture on, D:229 **Bigodless Revolution** Glorious Revolution, G:211 Bloodletting, B:403 Bloodroot, B:403 with picture Bloodsmoor Romance, A lbook by Oates

Oates, Joyce Carol, 0:376 Bloodwood (tree) Eucalypt, E:351

Bloody Assize, B:403 Jeffreys, George, J:81 **Bloody Sunday**

Lenin, V. I. (Revolt), L:170 Russia (The Revolution of 1905), R:489 Saint Petersburg (History), S:44

Egg (The shell), E:97 with diagram Bloomer, Amelia Jenks (American social reformer], B:403 with picture

Bloomfield, Leonard [American linguist), B:404

Bloomsbury Group, B:404 Blossom

Flower, F:239 Biossom blight (plant disease) Blight, B:387

Whale (Respiratory system), W:208

Blow fly, B:404 with picture Larva picture on, L:67 X rays (In industry), X:430

Blow, John [English composer], B:404

Dolphin (The bodies of dolphins), D:252 with picture Mammal (The respiratory system),

Whale (Respiratory system), W:208 "Blowin' in the Wind" [song]

Dylan, Bob, D:364 Blowlamp, B:404

Blowout

Petroleum (Rotary drilling), P:343 Blowout preventer

Petroleum (Casing), P:345 Blowpipe, B:404

Bagpipe, B:27 with diagram

Glass (Blowing), G:193 with pictures Blubber, B:404

Cetacean, C:330 Dolphin (The bodies of dolphins), D:252

Seal (The body of a seal), S:225 Whale (Skin and blubber), W:208; (Mi-

grations) W:210 Blücher, Gebhard Leberecht von

Prussian military leader], B:405 Napoleon I (The Hundred Days and Waterloo), N:22 Prussia (Napoleonic period), P:823

Waterloo, Battle of, W:99 Wellington, Duke of (Victory at Water-

loo), W:147 Blücher [locomotive]

Stephenson, George, So:317

Blue Angel, The [film] Dietrich, Marlene, D:170

Blue baby, B:405 Cyanosis, Ci:508

Heart (Blockage of the blood flow), H:108

Taussig, Helen Brooke, T:68 Blue-backed fairy bluebird

Bird picture on, B:325 Blue beech [tree]

Ironwood, I:403

Colour, Cl:191 with pictures and diagrams

Indigo, 1:179

Light (Electromagnetic waves), L:259 with diagram

Blue lentomologyl

Butterfly, B:682 with pictures

Blue Bird, The [work by Maeterlinck] Maeterlinck, Maurice, M:39

Blue book, B:405

Blue-bottle (coelenterate), B:405

Blue Boy, The [painting by Gainsboroughl

Gainsborough, Thomas, G:8 with picture

Blue chromis

Fish picture on, F:163

Blue crab, B:405 with picture Crab (Edible crabs), Cl:412 with picture

Blue Cross [organization]

Hospital (The 1900's), H:316 Blue-crowned motmot

Bird picture on, B:331 Blue-faced parrot finch

Bird picture on, B:335 Blue glant star [astronomy]

Star (Giants and supergiants), So:284; (The birth and death of a star)

So:287

Blue-green algae Algae, A:250

Earth (The earth's earliest history), E:26 Moneran, M:546

Blue Grotto [Capri, Italy]

Capri. C:148

Cave (table), C:284 Blue gum [tree]

Eucalypts picture on, E:348

Blue Hotel, The" Istory by Cranel American literature (Naturalists), A:315

Blue huckleberry Huckleberry, H:337

Blue jay, B:405 with picture Jay, J:72

Blue Lake, B:406 Blue lanternfish

Fish picture on, F:164

Blue marlin

Fish picture on, F:160 Marlin, M:215

Blue Monday

Monday, M:545 Blue Mountains [Australia], B:406 with

Australia, History of, A:802

New South Wales picture on, N:122

Blue Nile

Lake Tana, L:29

Nile, River (The course of the Nile). N:218 with map

Blue Period

Picasso, Pablo (Early career), P:485 Blue Plate Special (book by Runyon) Runyon, Damon, R:459

Blue Ridge

Pennsylvania (Land), P:263

Blue Ridge Mountains, B:407 See also list of Related Articles

Blue-ringed octopus, B:407 with picture

Blue shift

Astronomy picture on, A:694

Blue spiny lizard

Swift, So:480 with picture

Blue-spotted lagoon ray Fish picture on, F:159

Blue supergiant [star]

Deneb, D:107

Blue swimming crab Crab (Edible crabs), Ci:412

Blue tang surgeonfish Fish picture on, F:162

Blue tit

Bird picture on, B:322 Tit. T:264 with picture

Blue-tongued lizard, B:408 with picture

Blue trunkfish Fish picture on, F:162

Blue Valley Weir

Burdekin River Irrigation Project,

R:649 Blue vitrioi

Hydrate, H:398

Suiphate, So:400 Blue whale

Animal (interesting facts about animals), A:377 with picture; (Animal

travellers A:410 Whale (Rorquals), W:207 picture on W:204

Blue willow

Willow, W:260

Blue-winged pitta

Bird picture on, B:325

Blue wren, B:408

Blue, Billy [ferryman], B:405 Bluebell, B:408 with picture

Blueberry, B:408 with picture

Bluebird, B:409 with picture

Bird picture on, B:325 Bluebottle (insect)

Blow fly, B:404

Insect (picture; Some common insect pests), I:247

Bluebottle [plant]

Cornflower, Ci:358

Bluefin tuna

Fish picture on, F:161 Tuna. T:438

Bluefish, B:409 with picture Fish picture on, F:160

Bluegill

anthropologisti, B:413

Boat

Biography (The Middle Ages), B:301 Boating, B:414 with pictures Fish picture on, F:166 Italian literature (Humanism and the Eskimo, E:323 with pictures Bluegrass, B:410 Renaissance), I:445 Grass picture on, G:303 See also Ship Motorboat racing, M:650 with pic-Renaissance (Humanism), R:215 **Bluegrass Region** Short story, S:393 Kentucky (Land), K:223 frines Prehistoric people (The spread of set-Boccaccio (music by Suppél Ohio, 0:418 Suppé, Franz von, So:430 Bluebead tlement), P:758 Boccherini, Luigi (Italian composer), Rowing, R:414 with picture Fish picture on, F:163 B:417 Sailing, S:22 with pictures Bluenose, B:410 with picture Blueprint, B:410 with picture **Boat orchid** Boccioni, Umberto (Italian sculptor), B:417 Blues [music], B:411 Orchid picture on, 0:490 Futurism, F:509 lazz (The roots of jazz), J:74 **Boat people** Painting (Futurism), P:80; picture on Blues for Mr. Charlie book by Bald-Haiti (History), H:18 Immigration picture on, 1:34 Vietnam (Recent developments), V:382 Sculpture (Movement), S:191; (Modem American literature (Drama), A:321 international sculpture) S:215 with Baldwin, James, B:39 Bluestriped grunt Rowing (Rowing in the United Kingpicture Fish picture on, F:163 dom), R:414 **Bodark** Itreel Bluet, B:411 **Boat racing** Osage orange, 0:508 Bluford, Guion S., Jnr. (American astro-America's Cup, A:331 Bodensee Iceboating, I:18 with picture Lake Constance, L:21 Space exploration (The shuttle era be-Bluenose, B:410 with picture Bode's law, B:417 gins), So:157 Motorboat racing, M:650 with pic-**Bodh Gaya** [India] Blume, Judy [American author], B:411 Bihar (Places to visit), B:290 Blunden, Edmund (English poet), B:411 Olympic Games (table), 0:439 **Bodhi tree** Blunderbuss, B:411 with picture Rowing, R:414 with picture Bo tree. B:412 **Blunt point** Sailing, S:22 with picture; (Yacht rac-Buddha (The enlightenment), B:614 Nail (The parts of a nail), N:6 ing) S:26; (America's Cup) S:26 Bodhisattva, B:417 Blunt, Wilfrid Scawen (English poet), with picture Buddhism (Cosmic Buddhas and bod-Boating, B:414 with pictures hisattvas), B:618 Blurring (vision) See also list of Related Articles God (Personal gods), G:225 Eye (Defects of the eye), E:439 Sculpture (China), S:200 with picture Boaz Blushing, B:412 Ruth, Book of, R:505 **Bodhisattva Path** Blyth Valley [England], B:412 **Bob** [weight] Bodhisattva, B:417 Blythe, Ernest (Irish politician), B:412 Pendulum (Clock pendulums), P:256 Bodin, jean (French Jurist) Blyton, Enid (British author), B:412 with Bobadilla, Francisco de Political science (Secularism), P:654 portrait Columbus, Christopher (Christopher Bodleian Library, B:418 BMX Bodley, Sir Thomas (English statesman) Columbus in disgrace): Ci:211 Bicycle (Juvenile bikes), B:281; picture Bobbin Bodleian Library, B:418 on B:282 Industrial Revolution (Spinning ma-Library (Famous libraries), L:233 Cycling (Bicycle motocross races), chines), E213 **Bodmin Moor** [England] Ci:510 Sewing machine pictures on, S:288 Cornwall (Places to visit), Ci:360 B'nai B'rith (organization), B:412 with Weaving (Weaving on a loom), W:125 Bodoni, Glambattista (Italian printer), picture **Bobbin lace** B:418 Bo Juyl (Chinese poet) Lace, L:7 with picture Book (The 1600's and 1700's), B:457 Chinese literature (Poetry), C:470 **Bobbing for apples** Body Bo tree, B:412 Halloween (Other Halloween tradi-Frog, F:464 with pictures Boa constrictor, B:412 with picture tions), H:24 Human body, H:349 Snake (Feeding habits) picture on, Bobby (police) India, Philosophy of (Body and Soul), S:513 See also Police 1:130 Boabdil [king of Granada], B:413 Peel, Sir Robert, P:242 Metaphysics, M:379 Boadicea iqueen of the Icenil, B:413 Bobcat, B:415 Mosquito, M:633 England (The Roman conquest), E:273 Wildcat, W:248 Body building, B:418 Essex (History), E:333 Bobo (people) **Body cell** Boake, Barcroft (Australian writer) Burkina Faso (People), B:654 Heredity (The structure of chromo-Australia, Literature of (The bush bal-Bobolink, B:416 somes and genes), H:166 lad), A:831 Bird picture on, B:338 **Body language** Boar, Wild, B:413 with picture See also Blackbird; Oriole Communication (The study of nonver-Animal picture on, A:387 Bobsledding, B:416 with picture bal communication), Cl:237 **Board** game Olympic Games table on, 0:436 Dog (Communication), D:236 Game [recreation] (Board games), G:24 Sledge, **\$:483** Kinesics, K:253 **Board of trade** Tobogganing, T:272 with picture **Body processes** Commodity exchange, Ci:219 **Bobsleighing** Brain (In regulating body processes), Boarding School, The imusic by See Bobsledding Suppél **Bobwhite** Body Snatcher, The [film] Suppé, Franz von, So:430 Bird picture on, B:317 Karloff, Boris, K:195 Boas, Franz [German-born American Quail, Q:5 **Body temperature**

Boccaccio, Giovanni Italian poetl,

B:416 with portrait

See Temperature, Body

Boehmeria, B:418

Gas (How gases behave), G:58

Refrigeration (Effects of heat transfer),

Heat pipe, H:122

Pressure, P:771

R:184

Boehmite Bauxite, B:159 Boeotia lancient Greecel, B:418 Boer War See Anglo-Boer Wars Boers [people], B:419 Anglo-Boer Wars, A:368 Cape Province (History), C:137 Free State (History), F:432 Rhodes, Cecil John (Gains Rhodesia), R:256; (Conflict with the Boers) R:256 South Africa (People), So:158 South Africa (Way of life), So:59 South Africa, History of (White settlement in South Africa), So:77 with pictures; (White occupation of the Interior) So:79; (The Boer republics) So:79 Boesak, Allan Aubrey, B:419 Boesman and Lena [play by Fugard] Fugard, Athol, F:480 Boethius, Manlius Severinus Italian government officiall, B:419 Bog. B:419 Fuel (Solid fuels), F:478 Peat moss, P:239 Pand (Kinds of ponds), P:667 Wetland, W:200 See also Marsh Bog moss Moss picture on, M:638 Bog of Allen, B:419 Bog pond Pond (Kinds of ponds), P:667 Bog spavin Spavin, So:203 Boganda, Barthelmy [African political Central African Republic (History), Bogart, Humphrey [American actor], B:419 with portrait Film industry (Best performance by an actor), F:96 Bogeymen Haiti (History), H:18 **Boggy Peak** Antigua and Barbuda (Land and climate), A:461 **Bogner Regis** Sussex, So:447 Bogomilis (religious group) Bosnia-Herzegovina (History), B:475 Bogong moth, B:420 Bogotá (Colombia), B:420 Colombia, Ci:168 Bohème, La lopera by Puccinil Opera, 0:467 with picture Puccini, Giacomo, P:845 Bohemia, B:420 Austria (The Habsburgs), A:865 Czech Republic, Cl:516; (The rise of Bohemia) Ci:520 Czechoslovakia, Cl:522; (The rise of Bohemia) Cl:523 Czechs, Ch526 Moravia, M:602 with pictures Thirty Years' War (The Bohemian pe-

riod). T:221 **Bohemian Basin** Czech Republic, Ci:518 Czechoslovakia (Early history), Ci:523 **Bohemian glass** Czechoslovakia (Habsburg rule), Ci:523; picture on Ci:523 Glass (Types of art glass), G:198 with picture **Bohemian-Moravian Highlands** Czech Republic, Cl:518 **Bohemian Mountains** Czech Republic, Cl:518 Czechoslovakia (Early history), Cl:523 Bohemian waxwing Bird picture on, B:340 Waxwing, W:106 with picture Bohemians (people) Czechs, Cl:526 **Bohemond of Taranto** [crusader] Crusades (The First Crusade), Ci:463 Bohnenberger, G. C. linventor Gyroscope (History), G:446 Bohol [Philippines], B:421 Philippines (The main islands), P:380 Bohr, Niels | Danish physicist|, B:421 Atom (The forces within an atom), A:727; (The first descriptions of atomic structure) A:729 Chemistry (Development of physical chemistry), C:371 Element 105, E:200 Nobel Prizes (Physics), N:226; portrait on N:228 Physics (Quantum theory), P:477; (Uncovering the secrets of the atom) P:478 with picture Quantum mechanics (History), Q:6 Research (Basic research), R:235 Snake, S:516 **Boll** [people] Bohemia, B:420 Boil. B:421 Skin (Infections), S:470 **Boil-in plastic bags** Packaging, P:18 Boileau-Despréaux, Nicolas (French poetl, B:422 French literature (Classical poetry), F:447 Boiler, B:422 See also list of Related Articles Bismuth, B:371 Distillation, D:203 Heating (Steam and hot-water heating systems), H:127 Locomotive (Steam locomotives), 1:355 Steam engine (How steam engines work), Soc307 **Boiling** Cooking, Cl:335 Heat picture on, H:120 **Boiling Lake** Dominica (Land and climate), D:256 **Boiling point, B:423** Evaporation (How evaporation occurs), E:403

Steam, \$0:307 Vapour, V:314 **Boiling water reactor** Nuclear energy (Steam production), Nuclear reactor (The coolant), N:334 Rois d'arc Osage orange, 0:508 Boito, Arrigo (Italian composer), B:423 Opera (Faust), 0:470 Verdi, Giuseppe, V:345 Bojaxhiu, Agnes Gonxha (Indian religious leaderl Teresa, Mother, T:155 with portrait Bokassa, Jean-Bedel (African political Central African Republic (History), C:317 Bokmál Norway (Language), N:294 Boksburg (South Africa), B:423 Bola (weapon) Indian, American (Indians of the Marginal Regions), 1:163 Sling, S:488 Bolden, Buddy [American bandleader] Jazz (Early jazz), J:75 Boldrewood, Rolf [Australian author], B:423 Australia, Literature of (The development of the novel), A:830 Bolero (dance), B:423 Bolero (music by Ravel) Ravel, Maurice, R:146 Bolestaw I [king of Poland] Poland (The early Polish state), P:631 Bolestaw II (king of Poland) Stanislas, Saint, So:277 Boleyn, Anne | wife of Henry VIII], B:424 with portrait Catherine of Aragon, C:266 Henry VIII, H:152 Wolsey, Thomas Cardinal, W:290 Bolger, Jim New Zealand political leaderl, B:424 New Zealand, History of (New Zealand since 1972), N:175 Bollde Fireball, F:138 Bolingbroke, Viscount (English statesman], B:424 Bolívar, Simón (Venezuelan general), B:424 with portrait Bogotá, B:420 Bolivia, B:425; (Independence) B:430 Colombia (Independence), Cl:174 Flag (Historical flags of the world), picture on, F:211 Latin America (The wars of independence), L:90 with picture; (Spanish South America) L:91 with Miranda, Francisco de, M:507 Pan-American conferences, P:111

Bomb squad

Bonderizing [chemical process], B:448 Peru (The War of Independence), Police, P:640 Bondfield, Margaret Grace | British Bombacha (clothing) P:315 politicianl, B:445 Brazil (Clothing), B:534 San Martín, José de, S:69 **Bondi Surf Bathers' Life-Saving Club** Sucre, Antonio José de, So:380 Paraguay (Clothing), P:163 Surf lifesaving (History), So:435 **Bombardier beetle** Venezuela (The struggle for indepen-Bondi, Sir Hermann British mathemati-Animal (Chemical defences), A:404 dencel. V:334 cianl, B:445 with portrait Beetle picture on, B:196; (Ground bee-Bollvia, B:425 with pictures and maps ties) B:198 **Bonding** See also list of Related Articles Textile (Nonwoven fabrics), T:172 **Bombarding particle** Aviation (Aircraft nationality marks), Nuclear energy (Nuclear fission), N:321 Bonding (insurance), B:445 See also Arrest; Bail; Insurance Bombay [India], B:437 with pictures Flag picture on, F:202 Bondman, The [book by Caine] Guerrilla warfare (History), G:405 See also list of Related Articles Guevara, Ché, G:405 with picture Maharashtra, M:64 with picture; Caine, Sir Hall, C:15 (Places to visit) M:66 Bone lanatomyl, B:445 Latin America (Border disputes), L:92 See also list of Related Articles Peru (The War of the Pacific), P:316 Bombay Presidency [Indian history] Maharashtra (British rule), M:67 Arm, A:576 with diagram Sucre, Antonio José de, So:379, Bomber, B:443 with pictures Cartilage, C:216 So:380 Collagen, Cl:163 World War II (table: The Allies), W:381 Aeroplane (World War I), A:80; (Dur-First aid (Fractures and dislocations), Bolkiah, Sir Muda Hassanai (Sultan of ing World War II) A:83 with pic-Brunetl Brunei (Government), B:599 Air Force, A:195; (World War I) A:196 Foot, F:316 Royal families (Brunei), R:420 with picwith picture; (World War II) A:198 Hand (Parts of the hand), H:39 with diawith picture: (Air forces in the nu-Böil, Heinrich [German author], B:431 clear age) A:199 with picture Head. H:92 with diagram German literature (German literature Vietnam War (The fighting intensifies), Ligament, L:255 after 1945). G:110 V:384 with picture Nutrition (Minerals), N:364; (Vitamin Nobel Prizes (Literature), N:233 World War II (The air war), W:391 with deficiencies N:367 Boll picture Orthopaedics, 0:507 Cotton (Uses of cotton), Cl:381 **Bomblet** Osteomyelitis, O:513 Boll weevil, B:431 with picture Bomb (Fragmentation bomb), B:435 Osteosclerosis, O:514 Cotton, Ci:389; (Care during growth) Bombyx mori Space exploration (Microgravity), Cl:385 Moth (The importance of moths), So:135 Weevil, W:132 M:641 Bone ash Bollworm Silk (Cultivated silk), S:422 Porcelain (Bone china), P:688 Cotton (Care during growth), Cl:385 Bomoh [Malaysian healer], B:444 Bone bank, B:447 with picture Bonaparte, Charles J. U.S. attorney Bone china Bologna [Italy], B:431 with picture general) Porcelain, P:688 Bologna, University of, B:432 Federal Bureau of Investigation (FBI), Bone-conduction aid Bolometer, B:432 F:44 Ear (The sense of hearing), E:9 Telescope (infrared telescopes), T:115 Hearing aid (Types of hearing aids), Bonaparte, Napoleon Bolsheviks (political group), B:432 Napoleon I, N:18 (4:97 Kazakhstan (History), K:206 Bonaventure, Saint, B:444 **Bone conduction** Kerensky, Alexander Feodorovich, Scholasticism, \$:127 Ear (How sounds travel to the inner K:236 Bond [bricklaying] ear), E:9 Lenin, V. I., L:169 Brick (Bonds), B:559 with picture Bone disorder Mensheviks, M:349 Bond (chemistry), B:444 Bone, B:447 Russia (Nicholas II), R:489 Magnetism (Magnetism in atoms), **Bone glue** Trotsky, Leon, T:417 M:56 Glue, G:215 **Bolshol Theatre Ballet, B:432** Mineral (Chemical bonds), M:487 **Bone marrow** Moscow (Cultural life), M:628 Molecule (Individual molecules). Biopsy, **B:313** Russia (Ballet), R:474 M:534 Bone (Structure of the bones), B:446 Bolsover [England], B:432 Valency, V:330 Haemolysis, H:5 **Bolt-action rifle** Water (How water is held together), Leukaemia, L:195 Rifle, R:274 with picture W:82 **Bone matrix** Bolt [fastener], B:432 with pictures Bond [contract], B:444 Bone (Composition of bone), B:446 Lock (How door locks work), L:348 Economics (Important terms in eco-Bone meal with diagrams Gardening (Analysing the soil), G:38 nomics). E:65 Bolt, Robert (British playwright), B:433 investment (Bonds), 1:323 Bone People, The [book by Hulme] Bolton [England], B:433 with picture Will (Administration), W:254 Hulme, Keri, H:345 Boltzmann, Ludwig (Austrian physi-Bond, Alan (Australian businessman), Bone spavin cist), B:433 with portrait Spavin, So:203 Bond, James [literary figure] Bolyai, Janos [Hungarian mathemati-**Boneblack** Fleming, Ian Lancaster, F:225 Ivory black, 1:474 Geometry (Rise of non-Euclidean ge-Bondarenko, Valentin Russian astro-Bonefish, B:447 ometry), G:98 Boneset, B:447 Mathematics (In the 1800's), M:260 Bonfire of the Vanities, The book by Space exploration (Vostok and Mer-Bomb [weapon], B:433 with pictures cury: The first human beings in Wolfel See also list of Related Articles space), So:145 Wolfe, Tom, W:288

Bonded warehouse, B:445

Bong, Richard I.

See also list of Related Articles War aces, W:34 Braille, B:509 with picture Rongo Animal picture on, A:389 Communication (The start of printing), Cl:230 with picture Antelope, A:447 Bongo drums, B:447 with picture Database, D:40 Drum [musical instrument] picture on, Hornbook, H:282 with picture International standard book number, D:325 Bonheur, Rosa (French artist), B:448 Buffalo Bill (picture), B:624 Publishing, P:843 Book collecting, B:458 Bonhoeffer, Dietrich (German theolo-Book of Acaill [Irish history] gian], B:448 Bonhomme Richard (ship) Brehon laws, B:552 Jones, John Paul, J:139 Book of Bays (book by Beebel Beebe, William, B:192 Boniface VIII [pope], B:448 Book of Changes Church and state (The Middle Ages), I China. 1:2 C:501 Book of Common Prayer, A [novel by Philip IV, P:365 Pope (The peak of papal power), P:677 Didion] American literature (Experimental fic-Roman Catholic Church, R:340 Rome, University of, R:384 tion), E:343 Didion, Joan, D:167 Boniface, Saint, B:448 **Book of Common Prayer** Charles Martel, C:354 Anglicans (Doctrines), A:368 Bonifacio, Andrés (Filipino patriot), Church of England (The faith of the Church), C:502; (History) C:503 Bonin Islands, B:449 Japan (The Ryukyu and Bonin islands), Prayer book, P:740 Ridley, Nicholas, R:273 J:48; (Postwar boom) J:60 Uniformity, Act of, U:27 Tokyo (Outlying areas), T:280 Book of Days [publication] **Boning** knife Edinburgh (Transport and communica-Knife, K:298 with picture tion), E:78 Bonington, Chris [British mountaineer], **Book of Delight** [work by Zabara] Hebrew language and literature Bonington, Richard Parkes (English (Medieval works), H:129 painter], B:449 with portrait Book of Earth, The [poetry by Noyes] Bonito, B:450 with picture Noyes, Alfred, N:317 Bonn [Germany], B:450 with picture Book of Good Love [poetry by Ruiz] **Bonn Convention** Ruiz, Juan, R:453 Bird (Protective laws and treaties), Book of Hours, The [poetry by Rilke] Rilke, Rainer Maria, R:277 Bonnard, Pierre (French painter), 8:451 Bonner, Neville (Aboriginal politician), Book of Kells, B:459 Dublin (Universities), D:332 B:451 Illustration (The first illustrations), I:32 Bonnet Ireland, History of (Irish missionaries), Tartan, T:45 Bonnet doll Doll (China dolls), **D:246** Manuscript picture on, M:171 Bonnet, Stede (pirate), B:452 **Book of Levis** Bonney, Charles [Australian pioneer], Leviticus, L:198 Book of Mormon [book by Smith] B:452 Latter Day Saints, Reorganized Church Hawdon, Joseph, H:82 Bonney, William H. of Jesus Christ of, L:102 Billy the Kid, B:295 Mormons (Revelations), M:609 Bonnie Prince Charlie (Scottish Pre-Smith, Joseph, S:499 Book of Nonsense, A [book by Lear] tenderl Pretender, P:772 Lear, Edward, L:137 Book of Snobs [book by Thackeray] Scotland (The Act of Union), S:173 with Thackeray, William Makepeace (Early picture Bonsal, B:452 with picture career), T:177 Bontemps, Arna Wendell American Book of Songs and Sonnets, The [work by Wyatt] authorl, B:452 Bonus, B:452 Surrey, Earl of, So:445 Bony fish Wyatt, Sir Thomas, W:424 Fish (Kinds of fish), F:154 with pictures Book of Songs [work by Heine] Bony labyrinth Heine, Heinrich, H:135 Ear (The inner ear), E:8 Book of the Courtier, The work by Booby, B:453 with picture Castiglione) Boogle-woogle (music) Etiquette (Books on etiquette), E:344 Jazz (The swing era), J:76

Book of the Dead

Book, B:453

Bookmatch Books for Asia Crane, Cl:416 B:463 Booster Boot Shoe, 5:389 R:463 Egypt, Ancient (The afterlife), E:123

Book of Wirrun, The book by Wright-Wrightson, Patricia, W:420 Book review, B:459 Bookbinding, B:459 Islamic art (Books), I:421 Bookkeeping, B:461 Accountancy, A:20 Booklouse linsecti Insect (table), 1:262 Bookmaker (gambling) Gambling (Sports betting), G:23 Horse racing (Betting), H:308 Bookmark [computing] Encyclopedia (New types of encyclopedia), E:237 Match, M:252 with picture Match (The invention of bookmatches), M:254 Bookplate, B:461 Library picture on, L:227 Boole, George (British mathematician), Boolean algebra, B:462 Computer (Early calculating devices), Logic (Modern logic), L:362 Set theory (History), S:277 Boolean algebra, B:462 Boole, George, B:461 **Boolean operator** [computing] Encyclopedia (New types of encyclopedia), E:237 Boom [economics] Economics (Economic stability), E:63; table on E:65 Boom [mechanics] Construction equipment (Earth-moving machinery), Ch310 Boomerang, The socialist weekly Lane, William, L:46 Boomerang, B:462 with pictures Australian Aborigines, A:836 with pic-Boomslang [snake], B:463 Boone, Daniel (American pioneer), Wilderness Road, W:250 Boonesborough (U.S.A.) Wilderness Road, W:250 Space exploration (Space exploration terms), So:130 Boot, Sir Jesse (British businessman), Boötes [astronomy], B:463 Booth, Captain Charles O'Hara [Australian administrator) Port Arthur (Commandants), P:692 Booth, John Wilkes [American public figure), **B:464** Lincoln, Abraham (Assassination), L:286

Booth, William (English preacher), Salvation Army, S:60 Boothferry [England], B:464 Bootlace worm Worm (Ribbon worms), W:411 Rootle Sefton, S:238 **Bootlegging** Mafia, M:39 Roaring Twenties, R:299 Bophuthatswana (South African homelandl, B:464 Free State, F:430 Cape Province (History), C:137 South African homelands, So:87 Transvaal (History), T:364 Bor [Teutonic mythology] Mythology (The creation of life), M:761 Bora [wind] Croatia (Land and climate), Ci:445 Bora ground [Australia], B:464 with picture **Boracic acid** Boric acid. B:469 Borax, B:464 Boric acid, B:469 Death Valley, D:60 Sodium (Uses), So:16 Borazon (crystal), B:465 Boron, B:471 Borchert, Wolfgang [German dramatist German literature (Postwar German literature), G:110 Bord Fáilte Éireann lirish Tourist Board], B:465 Bordaberry, Juan Maria (Uruguayan political leader] Uruguay (Military government), U:285 Bordeaux (France), B:465 with picture Wine (Where wine comes from), W:273 Borden, Lizzle (American public figure), B:466 with portrait Border collie, B:466 Border terrier, B:466 with picture Border, Allan [Australian cricketer]. B:466 with portrait Borders Region (Scotland), B:466 with man Arms picture on, A:589 Bordetella pertussis Whooping cough, W:241 Hore Artillery (Parts of a gun), A:613 Shotgun, S:397 Bore [tide], B:468 Bore VI [ship] Ship (Multipurpose ships), \$:380 **Boreal forest biome** Biome, B:310 Forest picture on, F:344; (Kinds of forests) F:347; map on F:348 Boreas [ship] Nelson, Horatio (Joins the Navy), N:71 Borek [food] Turkey (Food and drink), T:458

Borel, Jean (Swiss immunologist)

Cyclosporin, Ci:511 Borelli, Giovanni A. [italian mathematicianl Aeroplane (Early experiments and Borg Olivier, Georgle [Maltese politician), B:468 Borg, Björn (Swedish tennis player), B:468 Tennis (table), T:147; (Tennis today)

Borges, lorge Luis (Argentine author), B:468 Argentina (The arts), A:556 Latin-American literature (The mid-1900's), L:96 Borgla, Alfonso, B:468 Borgia, Cesare (or Caesar) litalian political leader], B:468 Borgia, Lucrezia (or Lucretia) (Italian public figurel, B:468 Borgia, Rodrigo, B:468 Borglum, Gutzon [American artist], Mount Rushmore National Memorial. Boric acid, B:469 **Boring** Machine tool (Hole machining), M:16 **Boringuen** Puerto Rico (History), P:848 Boris Godunov lopera by Mussorgskyl Mussorgsky, Modest, M:746 Opera (Nationalism), 0:465; (The opera repertoire) 0:467 with picture Rimsky-Korsakov, Nikolai, R:278 Boris Godunov (play by Pushkin) Opera (Boris Godunov), 0:467 Pushkin, Alexander, P:868 Russian literature (Early romanticism), R:490 Borlaug, Norman Ernest (American agricultural scientist), B:469 Nobel Prizes (Peace), N:234 Plant (How people have changed plants), P:566 Wheat (Breeding new varieties of wheat). W:225 Borman, Frank [American astronaut], B:469 Space exploration (Orbiting the moon), So:149 Bormann, Martin [Nazi leader], B:469 with portrait Born Free: A Lioness of Two Worlds [book by Adamson] Adamson, Joy, A:32 Born to Dance [music by Porter] Porter, Cole, P:696 Born Yesterday [film] Cukor, George, Ch488 Born, Max [German physicist], B:469 Borneo, B:469 with picture and map Brunei, **B:599** Indonesia (The Islands), E:187 Malaysia, History of (Colonial rule), M:103 Bornholm Denmark (Bornholm), D:114

ideas), A:76

T:149 with picture

Bornite [mineral] Mineral picture on, M:484 Bornu [African history] Kanem, K:185 Borobudur (Java), B:471 Indonesia picture on. I:194 Borodin, Alexander (Russian composer), B:471 Opera (Nationalism), 0:465 Rimsky-Korsakov, Nikolai, R:278 Boron-10 Boron, B:471 Boron lelementl, B:471 Вогах. В:464 Borazon, B:465 California (Economy), C:39 Gay-Lussac, Joseph Louis, G:66 Moiave Desert, M:528 Strength of materials (Development of new materials), So:353 Boron nitride Boron, B:471 Boronia (Australian shrub), B:471 **Borosilicate glass** Glass (Recipes for making glass), G:191 Insulation (Insulation for heat flow

control), 1:269 Borough, The |poetry by Crabbe| Crabbe, George, Ci:413

Borrow, George (British author), B:472 with picture **Borrowing** [economics] Credit, Cl:419

Borrowing (mathematics) Numeration systems (Working with numeration systems), N:345 Subtraction (How to borrow), So:375

Borsch [food] Ukraine (Food and drink), U:8 Borstal, B:472 Reformatory, R:183

Borstal Boy (book by Behan) Behan, Brendan, B:201 Boru, Brian (Irish king)

Ireland, History of (Rival kings), 1:370 Boruca dam

Dam (table), D:13 Borzol, B:472 Dog picture on, D:228

Wolfhound, W:288 Bosch, Carl [German chemist], B:472 Nobel Prizes (Chemistry), N:229

Bosch, Hieronymus Dutch painted 16472

Boschendal Manor House [South Cape Province picture on, C:138

Boscovich, Rudjer (scientist) Atom (The birth of the modern atom): theory), A:728

Bose, Satyendra Nath (Indian Physicist), B:473 Boson, B;475

Bose, Sir jagdish Chandra (Indian sch entist), B:472

Bose, Subhash Chandra (Indian nation alist). B:473

Bose-Einstein statistics Bose, Satyendra Nath, B:473

Bosnia-Herzegovina, B:473 with picture and map Austria-Hungary, A:868 Balkans (Recent developments), B:44 Berlin, Congress of, B:255 Flag picture on, F:207 Milosević, Slobodan, M:475 Peter I. P:323 United Nations (The Yugoslav conflicts), U:179 Yugoslavia, Y:470; (History) Y:473 Bosnlans Bosnia-Herzegovina (People), B:474 Boson, B:475 Bose, Satvendra Nath, B:473 Lepton, L:184 Particle physics, P:206 Physics (Physics today), P:478 Bosporus, B:476 with map Black Sea, B:376 with map Byzantine Empire, B:699 Dardanelles, D:33 with map Istanbul, I:441 Marmara, Sea of, M:215 Bosporus Bridge Bosporus, B:476 Bridge (table: Suspension), B:565 Bossa nova Getz, Stan, G:145 Latin America (Music), L:85 Bossuet, Jacques Bénigne (French historian], B:476 French literature (Classical prose), F:447 Boston [England], B:476 See also list of Related Articles American Revolution (The evacuation of Boston), A:326 Boston Brahmins (American writers) Boston (People), B:475 Boston fern Gardening (Some popular house

Boston [U.S.A.], B:476 with picture

plants) picture on, G:41 Boston ivy

Ivy, 1:477

Boston Massacre [American history] Attucks, Crispus, A:733

Boston (History), B:477 See also Adams, John United States, History of the (Renewed conflict), U:241 **Boston Port Bill**

intolerable Acts, 1:299

Boston Tea Party, B:477 with picture Adams, Samuel, A:32 Boston, B:475; (History) B:476

Hutchinson, Thomas, H:391 Intolerable Acts, 1:299

United States, History of the (Renewed conflict), U:241 Washington, George (The approach-

ing revolution), W:61

Boston terrier, B:477 Dog picture on, D:235

Boswell, James [Scottish author], B:477 with portrait

Biography (The 1700's), B:301 Johnson, Samuel, J:134

Bosworth

Hinckley and Bosworth, H:208 Bosworth Field [England], B:478

Henry VII. H:152 Richard III. R:268

Wars of the Roses, W:41

Bot fly, B:478 with picture Insect (Family life), 1:256 See also Warble fly

Botanic Gardens and National Herharium

Canberra (Places to visit), C:116

Botanical garden, B:478 with pictures Arboretum, A:497

Flower picture on, F:243 Gardening, G:34 Kingstown, K:284 Plant picture on, P:541

Botanical insecticide Insecticide, I:264

Botany Bay [Australia], B:481 See also list of Related Articles Australia, History of, A:794 with picture; (First sightings) A:799 Australia, History of (The foundation of

Australia), A:798 with picture Australia, History of (Transportation),

A:800

Banks, Sir Joseph, B:96 Convicts in Australia (Transportation), Cl:320; (Convict ships) Cl:321 Cook, James, Cl:326 with picture; CI:328

First Fleet, F:148 with map La Pérouse, Jean François, L:61 New South Wales (History), N:133 Phillip, Arthur, P:416 with map

Botany Bay (book by Langl Australia, Literature of (The development of the novel), A:830

Botany, B:479 with pictures See also list of Related Articles with the Botany article

Arboretum, A:497 Biology, B:304

Herbarium, H:161 Plant (Classification of plants), P:570

Science (The life sciences), S:140

Botha, Louis [South African statesman],

Anglo-Boer Wars (The War), A:370 South Africa, History of (The Union of South Africa), So:83 with portrait

Botha, P. W. (South African statesman), B:ANT

De Klerk, F. W., D:90 South Africa, History of (The 1984 Constitution), So:83

Botham, Ian [English cricketer], B:482 Cricket picture on, Cl:432 Bothamsall Castle [England]

Nottinghamshire (Places to visit),

Bothwell, Earl of (Scottish nobleman), B:487 Mary, Queen of Scots (Her reign),

M:237 Botswana, B:482 with pictures and maps

Gaborone, G:4 Kalahari Desert, K:180 Rhodes, Cecil John (Gains Rhodesia),

Flag picture on, F:200

Böttger, Johann Friedrich [German chemist], B:484 with picture Porcelain (German porcelain), P:689 Pottery (Pottery of the 1700's and 1800's), P:725

Botticelli, Sandro litalian painterl, R-ARA

Graces, G:281 with picture Lippi, Filippo, L:303 Painting (Florentine masters), P:56 with pictures

Bottle, B:484 with diagram Glass (Glass containers), G:190 with picture; (How glass is shaped and finished) G:193 with picture

Packaging, P:18 **Bottle-feeding** Baby, B:9 **Bottle gourd**

Gourd, G:266 with picture

Bottle-nosed dolphin Dolphin, D:251 with picture Whale picture on, W:210

Bottle tree, B:486 with picture Bottlebrush, B:486

Bottled gas

Gas (Gas in the home), G:49

Bottom fishing Fishing (Coarse fishing), F:186

Bottom lighting Photography picture on, P:446

Bottom quark [physics] Particle physics (Families of particles),

P:206

Bottom rot (plant disease) Lettuce (Diseases and Insect pests),

Bottom water loceanographyl Atlantic Ocean (Deep and bottom wa-

ters), A:719 Botulism, B:486

Bacon, B:18

Bacteria (Harmful bacteria), B:20 Food poisoning, F:305 Food preservation (How food spoils), F:305

Boubou (ciothing) Guinea (People), G:413 Senegal (People), S:251

Boucher, François (French painter), B:486

Fragonard, Jean Honoré, F:390 Rococo, R:328

Boucicault, Dion Ilrish-American play-

wrightl. B:487 Irish literature (Drama), 1:382

Boudiaff, Mohammed (Algerian political leader

Algeria (Recent developments), A:266

Boudicca Boadicea, B:413

Bougainville [Solomon Islands], B:487 New Guinea, N:114 Solomon Islands, So:32

Bougainville Revolutionary Army [Papua New Guineal, P:157 Bougainville, Louis Antoine, Comte de [French scientist], B:487 Bougainville, B:487 Exploration (table), E:426 Society Islands, So:10 Tahiti, T:7 Bougainvillea, B:487 with picture Bouillabaisse [food] France (Food and drink), F:399 Boulez, Pierre [French composer], B:487 Boulle, André Charles [French cabinetmaker] Furniture (Louis XIV furniture), F:499; (French styles) F:500 Boult, Sir Adrian [British conductor], B:488 Boulton, Matthew [British engineer], B:488 Watt, lames, W:101 Boumedienne, Houarl [Algerian military leader), B:488 Algeria (Independence), A:266 Ben Bella, Ahmed, B:233 Bound East for Cardiff [play by O'Neill] O'Neill, Eugene Gladstone, 0:452 Boundary Set theory (in geometry), S:277 Territorial waters, T:158 Boundary layer [aerodynamics] Aerodynamics (Principles of aerodynamics), A:71 Bounty, Mutiny on the Bligh, William, B:387 Bounty [ship] Bligh, William, B:387 Norfolk Island, N:241 Pitcairn Island, P:523 Tonga, T:293 Bourbon [drink] Alcoholic beverage, A:237 Whisky, W:229 Bourbon [French history], B:488 France (Religious wars), F:413 Francis II (1544-1560), F:420 Spain (Bourbon reforms), So:184 **Bourdon tube** Gauge, G:63 with picture Thermometer (Deformation-type thermometers), T:215 **Bourgeoisle** Communism (The ideas of Marx). Ci:239 Marx, Karl (The class struggle), M:235 Middle class, M:452 Bourguiba, Habib (president of Tunisial, B:488 Tunisia (History), T:443 Bourke [Australia], B:489 Bourke, Sir Richard Igovernor of New South Wales], B:489 Squatters in Australia (Growth of the wool industry), So:251 Bournemouth [England], B:489 Boussole (ship) La Pérouse, Jean François, L:61

Bout

Bridge, B:561 Boxing, **B:494 Box Hill** Boutros-Ghali, Boutros (Egyptian dip-Mole Valley, M:532 with picture lomatl. B:489 United Nations (The secretary-general), Kite (Types of kites), K:291; (History) U:167 with picture K:292 with picture Bouvard and Pécuchet book by Flau-Boxelder, B:493 with picture Elder, E:137 Flaubert, Gustave, F:222 Bouvier des Flandres, B:489 Boxer, **B:493** Dog picture on, D:230 Bovine spongiform encephalitis (BSE), B:489 Boxer Rebellion [China], B:493 Bovine tuberculosis (disease) Beijing (History), B:205 Badger, B:23 China (The fall of the Manchus), C:461 Veterinary medicine (On farms), V:353 Hoover, Herbert Clark (Early life), H:274 **Bow and arrow** Archery, A:507 with pictures Boxing, B:494 with pictures See also list of Related Articles In the Crossbow, Cl:456 Boxing article Indian, American (Hunting, gathering, and fishing), L:139; Weapons L:146 Ali, Muhammad, A:267 Bow Bells [London], B:489 Burma (Recreation), B:657 Olympic Games table on, O:438 Ship (table: Nautical terms), S:363 Queensberry, Marquess of, Q:12 Queensberry Rules, Q:12 Bow Street runners, B:489 Thailand (Recreation), T:181 with pic-Police (History), P:643 Bow tie ture Necktie, N:65 Boxing Day, B:502 Bow window Boy Window, W:271 Adolescent, A:51 Bowater Industries plc, B:490 Baby, B:4 Bowdier, Thomas (British scholar), Child, C:403 B:490 Sex. S:289 **Bowed kite** Boy-girl relationships Kite (Types of kite), K:291 Sex, S:291 **Bowed stringed instrument Boy Scout** Music, M:727 pictures on M:728 Baden-Powell, Lord, B:23 Knots, hitches, and splices (Uses of Intestine, 1:298 knots), K:307 Laxative, L:123 Scouting (History), S:183 Bowen, Edward (British radio-**Boy Scout knife** physicistl, B:490 with portrait Knife, K:298 with picture Bowen, Elizabeth [Angio-Irish author], Boy with a Cart, The |play by Fry| B:490 Fry, Christopher, F:477 Bowen, John [Tasmanian settler], B:490 Boy with a Squirrel [painting by Cop-Bowen, Sir George Ferguson (British Copley, John Singleton, Cl:340 statesman!, B:490 Bowerbird, B:490 with picture Boyce, William [English composer], Animal (Courtship behaviour), A:405 B:502 Bowfin, B:491 with picture Boycott, B:502 **Bowhead whale** International relations (Nonmilitary Whale, W:206 with picture sanctions), 1:294 Bowie knife, B:491 with picture Boyd [Australian artist family], B:502 Bowie, David [British rock singer], Boyd Orr, Lord [British scientist], B:503 B:491 Boyd, Martin [Australian writer] Bowl in the form of a jaguar Australia, Literature of (Modern nov-Sculpture (Indian sculpture of the e(s), A:832 Americas), S:205 with picture Boyd, Belle (American Confederate Bowler spyl, B:502 Cricket (The fielding side), Ci:428 Boyd, Ben [Scottish pioneer], B:502 Bowling [indoor sport], B:491 Boyhood [book by Tolstoy] **Bowling crease** Tolstoy, Leo (Early life and works), Cricket, Ci:425 T:289 Bowlplaying, B:492 Boyle, Robert [Irish scientist], B:503 **Bowls, B:492** Chemistry (Alchemy), C:368 England (Recreation), E:267 Gas (Gas laws), G:58 with picture Bowwood Pressure, P:771 Osage orange, 0:508 Science (The scientific revolution), Box [tree], B:493 with picture

Sound (The wave theory), So:53

Boyle's law

Eucalypt, E:351

Box girder bridge

Boyle, Robert, B:503 Gas (Gas laws), G:58 with picture Pressure, P:771 Boyne [river], B:503 Boyne, Battle of the, B:503

Ireland (The Williamite War), 1:372; picture on 1:374 Northern Ireland (Way of life), N:272;

(Protestant settlement) N:274 Boys' Brigade, B:503 with pictures

Boy's Festival

Doll (Doll festivals and customs), D:244

Boys Town [U.S.], B:504

Boy's Will, A [poem by Frost] Frost, Robert Lee, F:471

Boysenberry, B:504 with picture

Bozartma (food)

Azerbaijan (People), A:896

Bozeman Trail (American history), B:504

Bridger, James, B:569

Brabazon of Tara, Lord (British pioneer aviator), B:504

Brabham, Sir John (Australian motorracing driverl, B:504 with portrait Brace (dentistry)

Orthodontics, O:507 Teeth picture on, T:96

Brace (mathematics)

Algebra (Symbols in algebra), A:255

Bracelet (jewellery) Gold picture on, G:230

jewellery, J:109 with picture

Brachlation Orangutan, O:484

Brachlopod

Animal (A classification of the animal kingdom), A:414 Australia (Paleaozoic Era), A:767

Earth (The Palaeozoic Era), E:27

Brachiosaurus

Dinosaurs (Saurischlans), D:177; picture on D:178

Prehistoric animal picture on, P:743 Reptile (The evolution of reptiles), R:233

Brack, John [Australian painter], B:505 Bracken

Fern (Types of fern), F:56 with picture **Bracket** [mathematics]

Algebra (Symbols in algebra), A:255 Bracket fungi

Fungi (Common kinds of fungi), F:486 Mushroom (Nonpoisonous mush-

rooms), M:724 Brackets

Punctuation, P:857

Bracknell Forest [England], B:505 Bracq (ship)

Tasman, Abel Janszoon (The second Voyage), T:50

Bract

Banana (How bananas grow), B:71 Botany (table), B:481

Brown lung, B:593

Flower (Variations in flower structure), F:262 with picture Four-o'clock, F:376 with picture

Indian paintbrush, 1:171

Leaf (Specialized leaves), L:131

Pineapple (The pineapple plant), P:505 Raceme, R:41

Spurge family, So:243

Bracton, Henry de English legal expert], B:505

Bradbury, Ray [American author], B:505 with portrait

Bradfield, John Job Crew [Australian engineer], B:505

Bradford (England), B:505

Bradford, Andrew [American editor],

Bradford, William [American printer], B:505

Bradford, William [colonial governor] American literature (New England), A:310

Bradford, William, III (American edi-

tor), B:505 Bradley, Francis Herbert (British philosopher], B:506

Bradley, James (English astronomer), 0:506

Bradley, Omar Nelson American generall. B:506

Bradman, Sir Donald [Australian cricketer), B:506 with portrait Cricket picture on, Ci:431

Bradstreet, Anne

American literature (New England), A:310

Brady, E. J. [Australian writer] Australia, Literature of (The bush ballad). A:831

Brady, Mathew [Australian bushranger), B:507

Brady, Matthew B. [American photographerl, B:507 with picture Photography (Artistic advances), P:462 with picture

Bradycardia

Heart (Abnormal heart rhythms), H:109

Braemar (Scotland)

Grampian Region (Places to visit),

G:289

Braga (Portugal), B:507

Braganza, House of Portuguese history

Portugal (Spanish conquest), P:706

Bragg, Sir William Henry (British physicist], B:507

Bragi

Mythology (The construction of the world), M:761

Brahe, Tycho [Danish astronomer], B:507

Astronomy picture on, A:696; (The beginnings of modern astronomy)

Comet (table), Ci:216

Gravitation, G:308 Kepler, johannes, K:231 Moon (table), M:595

Science (The rebirth of science), S:145 Supernova, So:428

Brahma

Hinduism (Divinities), H:209; picture

on H:211

Brahman (cattle)

Cattle (Beef cattle), C:272 with picture

Brahman (Hindu god), B:508

Asia (Religions), A:634

Hinduism (Beliefs of Hinduism), H:209 Polytheism, P:662

Priest, P:776

Religion (How the major religions are organized), R:200

Shiva, **S:388**

Upanishads, U:271

Brahmanas [Indian sacred text] Hinduism (The Vedas), H:214 India, Literature of (The Vedas), 1:124 Sanskrit literature. S:75

Vedas, V:320

Brahmans (sociology)

Caste, C:233 Dravidians, D:303

Hinduism (Social divisions), H:210 Religion (How the major religions are organized), R:200

Brahmaputra River, B:508 with map Assam, A:669

Bangladesh (The land), B:86 India (The Northern Plains), I:67 with map 68

Brahmi (Indian script)

India, Languages of (Scripts and sounds in Indian languages), I:123

Brahminy kite Kite, K:291

Brahmo Samaj [Indian religious move-

Hinduism (Hindu reform movements), H:215

Roy, Ram Mohan, R:415

Brahms, Johannes [German composer], B:508 with portrait

Classical music (The romantic era), Ci:61

Overture, 0:526 Schumann, Clara, S:136

Braid

Textile, T:172

Braid, James [British doctor] Hypnotism (Scientific studies), H:415

Braided floor coverings

Rugs and carpets (Other methods), R:451

Braiding, B:509 with picture

Braille (alphabet), B:509 with pictures Blindness (Aids for blind people),

B:389

Braille, Louis, B:510

Handicapped picture on, H:45

Braille keyboard (computing)

Encyclopedia (New types of encyclopedia), E:237

Braille, Louis [French inventor], B:510 Braille, B:509

Brain, B:510 with pictures See also list of Related Articles Allergy (Emotional factors), A:274 Colour (How we see colour), Cl:193 Dream (The biology of dreams), D:305

Ear (How sounds reach the brain), E:10 Electroencephalograph, E:175

Encephalitis, E:234

Bramante, Donato (Italian architect),

tecture), A:527

Architecture (Later Renaissance archi-

R:522

Eye (Depth perception), E:438 Portuguese language, P:708 Bramble, B:522 Brasilia [Brazil], B:523 Bramble (ship) Fish (Nervous system), F:170 Brazil (Return to constitutional govern-Kennedy, Edmund, K:216 Human body picture on, H:350 ment), B:545 Learning (Theories of learning), L:138 Bran, B:522 Flour (How white flour is milled), F:238 Mammal (The nervous system), M:128 City (Future cities), Cl:37 Niemeyer, Oscar, N:201 with picture Rice (Structure), R:261 with diagram; Nervous system (The central nervous (Food) R:262; (Removing the bran **Brass band** system), N:81 Band, **B:74** layers) R:266 Perception (The brain), P:277 Brass, B:524 with pictures Wheat (Structure), W:216 with dia-Positron emission tomography (PET), gram See also Alloy; Bronze; Copper; Wire: P:709 Prehistoric people (Prehuman ances-Branch Brass instrument Tree, T:377 with pictures tors), P:751; (The first human be-Classical music (Orchestral music), ings) P:751; (Early Homo sapiens) Branch of Dodona, The Ipoetry by P1753 Campbeil] Cl:56 Campbell, David, C:63 Jazz, 1:74 Senility, S:254 Brancusi, Constantin (Romanian sculp-Music, M:728 with pictures Brain cell Orchestra (The musicians), 0:488 Brain, B:512 torl. B:522 with picture Brass rubbing, B:525 with picture Romania (Arts), R:352 **Brain damage** Sculpture (As artistic expression), Brathy, John Randall (British painter), Alzheimer's disease, A:296 S:189; (Modern international B:526 with picture Aphasia, A:471 Brain (Disorders of the brain), B:517 sculpture) S:215 with picture Bratislava [Slovakia], B:526 Bratsk dam Cerebral haemorrhage, C:327 **Brand** (mark) Cerebral palsy, C:328 Ranching pictures on, R:135 Dam (table), D:13 Brattain, Walter H. [American physicis] Concussion, Cl:273 **Brand** name Epilepsy, E:312 Electricity (Electrons and electricity), Trademark, T:332 Learning disabilities (Causes), L:139 Brand [play by Ibsen] E:172 Mental illness (Physical changes), Ibsen, Henrik, I:4 Nobel Prizes (Physics), N:227 M:353 Brandenburg [Germany], B:523 Transistor (History), T:341 Mental retardation (Causes), M:357 Braun, Eva, B:526 with portrait Berlin (History), B:253 Paralysis (Paralysis of central nervous Germany (The rise of Prussia), G:132 Hitler, Adolf (Death), H:231 system origin), P:168 Braun, Wernher von iGerman scientist Prussia (Early history), P:822; (Decline Spastic paralysis, So:203 See Von Braun, Wernher of Prussia) P:823 Braunschweig [Germany], B:526 Speech therapy (Types and causes of Brandenburg Concertos music by Brave Eagle's Account of the Fetter speech defects), So:208 Bach] Tay-Sachs disease, T:72 Bach, Johann Sebastian (The Third Peman Fight book by Goble **Brain death** riod), B:17 Goble, Paul, G:224 Death (Defining death), D:58 Brave New World (book by Huxley) Concerto, Cl:272 Brain drain Huxley, Aldous Leonard, H:392 **Brandenburg Gate** immigration (Effects on nations), 1:34 Berlin, B:248; picture on B:247 Science fiction (The 1900's), S:151 Brain scan Branding Brawne, Fanny Positron emission tomography (PET), Cowboy (The roundup), Ci:407 with Keats, John (His life), K:208 P:709 Bray, Thomas (English clergyman) picture **Brain stem** Brando, Marion [American actor], Library (The United States), L:233 Brazauskas, Algirdas Lithuanian presi Brain, B:512 with picture 8:523 Nervous system (Central nervous sys-Brandt, Petronella dent tem), N:81 Dolls' house, D:249 Lithuania (History), L:331 Braine, John English novelisti, B:520 Brazil, B:527 with pictures and maps Brandt, Willy [German statesman], Braintree (England), B:520 See also list of Related Articles Essex (Local government), E:332 Aviation (Aircraft nationality marks), Germany (West Germany), G:138 Brainwashing, B:520 Nobel Prizes (Peace), N:234 A:881 Prisoner of war, P:791 Brandy Brasilia, B:523 Propaganda, P:803 Alcoholic beverage, A:238 Clothing picture on, Cl:97 Braithwaite, Dame Lilian English ac-Wine (Clarifying and aging the wine), Conservation picture on, Cl:302 tressl, **B:520** Electric power (table), E:161 Braithwaite, Edward [West Indian nov-Brandywine, Battle of Flag picture on, F:202 elistl, **B:520** American Revolution, A:326 Latin America (The wars of indepen-Brake, B:520 with diagrams dence), L:90; (Border disputes) Branov nad Dyji Bicycle (Steering and stopping), B:282 Czech Republic picture on, Cl:522 L:92; (Latin America and the Car (The brake system), C:158 with dia-Bransfield, Edward United States) L:93 gram Antarctica, A:442 Line of Demarcation, L:291 Portugal (Empire and wealth), P:705 **Brake fluid** Exploration (Polar exploration), E:427; Brake (Hydraulic brakes), B:520 (table) E:427 with map; (A weakening monar Brake horsepower Brant, Isabella (wife of Rubens) chy) P:706 Rio de Janeiro, R:280; (History) R:284 Horsepower, H:310 Rubens, Peter Paul, R:440

Braque, Georges (French artist), B:523

Painting (Cubism), P:79; picture on

Cubism, Ci:484 with picture

P:81

Slavery (Modern times), S:481

South America (table), So:87 World War II (table: the Allies), W:381

Brazil Current

Saint Peter's Church (History), S:42

Brasileiro

Atlantic Ocean (Currents), map on, A:719, A:720 Ocean (illustration: Major bodies of Brazil nut, B:546 with picture Brazilian literature Latin-American literature, L:96 Brazilwood, B:547 Brazing Welding, W:143 Brazzaville (Congol, B:547 Congo (People), Ci:280 **Breach of contract** Contract, Cl:317 Breach of the peace [law], B:547 Bread, B:547 See also list of Related Articles Air conditioning (In business and industry), A:190 Flour, F:237 Food (Food from plants), F:294 with picture Leaven, L:144 Nutrition (Carbohydrates), N:363 Rye (Uses), R:509 Yeast, Y:442 with pictures **Bread** wheat Grass (Wheat), G:303 Breadbasket of America Kansas, K:190 Breadfruit, B:549 with picture "Break, Break, Break" (poem by Tennysonl Poetry, P:609 Tennyson, Lord (His poems), T:150 Break dancing Dancing (Dancing since 1900), D:28 Breakbone fever Dengue, D:107 Breaker cam Ignition (Battery ignition), 1:28 **Breaker** switch Ignition (Battery Ignition), 1:28 Breakspear, Nicholas Adrian IV, A:58 Breakwater, B:549 with picture Harbour, H:58 Bream, B:550 with picture Bream, Julian (British guitarist), 8:550 Breast lanatomyl, B:550 with picture Pregnancy (How pregnancy affects women), P:742 Breast cancer Breast, B:550 Cancer, C:119 Mastectomy, M:248 Breast-feeding Baby, **B:9** La Leche League International, L:32 Breasted, James Henry (American ar-

water and major currents), O:388 chaeologistl Calendar (The Egyptians), C:35 Fertile crescent, F:59 Breastplate [armour] Armour, A:582 with pictures Breastplate [harness] diagram on, H:63 Breaststroke

strokes), So:484 diagram on

Swimming (Swimming kicks and

501486 Breath control [music] Singing (Training the voice), \$:454 Breathing Animal (Adaptations for breathing), A:399 with pictures Emphysema, E:231 First aid (Restoring breathing), F:143 Gill. G:159 Hyperventilation, H:412 Iron lung, 1:403 with picture Lung, L:414 with diagrams Nose, N:303 with diagram Respiration (Organs of breathing), R:239; (The process of breathing) R:239; (Control of breathing) D-240 Space exploration, So:137 Breathless [film] Godard, lean-Luc, G:225 Brébeuf, Saint lean de [French missionary]. B:551 Breccia (rock) Moon (What the moon is made of), M:586 with picture Rock (Extrusive rocks), R:307; (Clastic sediments) R:308 with picture Brecht, Bertolt (German playwright), R:551 Drama (Epic theatre), D:300 with pic-German literature (Expressionism), G:110 Weill, Kurt, W:141 Breckland (England), B:551 Brecknock [Wales], B:551 Brecon Beacons Powys (The land), P:734 picture on FI733 Breda (Netherlands), B:551 Breech Firearm (Mechanism), F:137 Breech birth Breeder reactor Nuclear energy (Experimental breeder reactors), N:331 tory) N:334

Artillery (Parts of a gun), A:613 Handgun (Single-shot pistols), H:43 Rifle (The parts of a rifle), R:274 Childbirth (The birth process), C:411 Energy supply (Nuclear energy), E:248

Nuclear reactor (The core), N:332; (His-Uranium (Radioactivity and fissionability), U:273

Breeding, B:551

See also list of Related Articles Agriculture (Advances in livestock breeding), A:173; (Improved plant and livestock breeding) A:175 Animal (Breeding in captivity), A:413 with picture

Cat (Breeds of cats), C:246 with pictures Cattle (Breeding), C:275

Frog (Mating), F:466 with picture Fruit (Developing new varieties of fruit), F:474 Grafting (Uses of grafting), G:282

Horse (Breeding horses), H:301 with picture Mammal (Mating), M:131 Plant (Control of diseases and pests),

Wildlife conservation (Methods of

wildlife conservation), W:251 Zoo (Wildlife conservation), Z:502

Breeding cycle Oestrous cycle, 0:414

Breeding season Oestrous cycle. 0:414

Breedlove, Craig (American driver), R:552

Brunze Wind (table: Beaufort wind scale), W:269

Bréguet, Louis [French inventor] Helicopter (Early designs and experiments), H:136

Brehon laws [Irish history], B:552 Breit, Gregory [American physicist] Radar (The first uses of radar), R:61 Bremen (Germany), B:552

Brendan of Birr, Saint Brendan, Saint, B:553

Brendan of Clonfert, Saint Brendan, Saint, B:552

Brennan, Christopher (Australian poetl, B:553 Australia, Literature of (Other poetry),

A:B31

Brenner Pass (Austria-Italy), B:553 Alps diagram on, A:285; (Alpine travel) A:286

Tyrol, T:491 with map

Brent

Brent goose, B:553 Goose (Kinds of geese), G:254 with picture

Brent (England), B:553 Brent goose, B:553 with picture

Goose, G:254 with picture **Brentford and Chiswick** Hounslow, H:320

Brentwood (England), B:553 Essex (Local government), E:332

Wrocław, W:424

Bressingham Steam Museum [England Norfolk (Places to visit), N:241

Brest [Belarus]

Belarus (Government), B:208

Brest [France], B:553

Brest-Litovsk, Treaty of [1918] Lenin, V. I. (Lenin the dictator), L:171 Union of Soviet Socialist Republics (The October Revolution), U:32

World War I (The Russian Revolution),

Brethren [religious groups], B:553 Brethren, Church of the, B:554

Breton, André [French poet], B:554 Dadaism, D:2

French literature (Surrealism), F:450 Surrealism, So:442

Breton (language) Brittany (Culture), B:582 126 Breton, Jules Adolphe France (Language), F:398 Breton, Jules Adolphe [French painter], B:554 with picture **Bretons** [people] Brittany, B:581 Brett, John (British engineer) Cable (Early cables), C:5 **Bretton Woods, B:554** International Monetary Fund (IMF), 1:293 Breuer, Marcel Lajos (Hungarian-born architect], B:555 Furniture (The Bauhaus), F:506 with picture Brevitype Shorthand machine, \$:396 Brewer's yeast Yeast (How yeast is used), Y:442 Brewing, B:555 Beer. B:193 Hop. H:275 Pasteurization, P:212 Tea. T:79 Brewster, Sir David (Scottish doctor), B:556 Kaleidoscope, K:181 Breytenbach, Breten (South African poet), B:556 Brezhnev, Leonid Ilyich (Russian political leader), B:556 with portrait Chernenko, Konstantin Ustinovich, Communism (Under Stalin's successors). Ci:241 Kosygin, Alekset Nikolaevich, K:331 Russia (The Cold War), R:491 with pic-Union of Soviet Socialist Republics (Brezhnev comes to power), U:35 Brian Boru (king of Munster), B:556 Ireland (Rival kings), 1:370 Brian, Havergal (British composer), B:556 Briand, Aristide (French government

official Kellogg-Briand Peace Pact, K:212

Nobel Prizes (Peace), N:233

Briar

Heather, H:125 Pipe (tobaccol, P:515 Briard, B:557 with picture

Dog (picture: Herding dogs), D:231 Bribery [crime], B:557

Extortion, E:432

Brice, Fanny (American singer), B:557 Brick, B:557 with pictures

Adobe, A:50 with picture Ceramics (Kinds of ceramic products),

C:325

House (Materials), H:323 Sound (table), So:49

Brick cutter

Brick (The stiff-mud process), B:557 Brickhill, Paul [Australian author], B:559 with portrait

Bricklaying Brick, B:559 with picture

Brickmaking Brick, B:599 with pictures

Country crafts, Ci:394 Bridal Canopy, The (book by Agnon) Agnon, Shmuel Yosef, A:159

Bride Marriage, M:217 with pictures; (Wedding ceremonies and customs) M:218

Bride of Abydos, The poetry by Byron Byron, Lord (Byron's life), B:695

Bride of Frankenstein, The [film] Karloff, Boris, K:195

Bride price

Kazakhstan (People), K:204 Marriage (Marriage in other cultures), M;219

Papua New Guinea (Way of life), P:142 Bride Stripped Bare by Her Bachelors, Even, The painting by Duchamp)

Duchamp, Marcel, D:336

Bride, Saint

Bridget, Saint, B:570

Bridegroom

Marriage, M:217 with pictures; (Wedding ceremonies and customs)

Brideshead Revisited [book by Waugh] Waugh, Evelyn, W:103

Bridesmaid

Marriage (Wedding ceremonies and customs), M:218

Bridewealth

Africa (Marriage and the family), A:131 Bridge, The [poem by Crane] American literature (Modernist poets),

Bridge, B:560 with pictures See also list of Related Articles Pontoon bridge, P:669

Stephenson, Robert, So:317 **Bridge** (dentistry)

Teeth (Removing and replacing teeth),

Bridge (game), B:567 with pictures **Bridge** (platform)

Submarine, So:368

Bridge crane Crane, Ci:416

Bridge for Passing, A book by Buckl Buck, Pearl S., B:608

Bridge grafting Grafting, G:284

Bridge of San Luis Rey, The Iwork by Wilderl

Wilder, Thornton Niven, W:250

Bridge of Sighs [Venice], B:569 with

Bridge on the River Kwai. The [film] Lean, Sir David, L:136

Bridge scoring

Bridge (table), B:568

Bridge, Ernie (Aboriginal leader), B:569 Bridge, Frank [British composer], B:569 Bridger, James (American frontiers-

manl, B:569 with portrait Bridges at Toko-Ri, The [film]

Kelly, Grace, K:213 **Bridges, Alfred Renton** Bridges, Harry, B:570

Bridges, Harry [American trade union leaderl, B:569

Bridges, Robert Seymour (English poet], B:570

Bridges, Sir William Throsby Australian military leader], B:570 Bridget, Saint [Irish nun], B:570

Bridget, Saint [Swedish], B:570 Bridgetown (Barbados), B:570 Barbados, B:101; picture on B:104

Bridgewater Canal

Bridgewater, Duke of, B:570 Brindley, James, B:572

Manchester picture on, M:146 Bridgewater, Duke of British public

figure), B:570 Bridgnorth (England), B:570

Bridie, James (Scottish playwright), R:570

Scottish literature (After 1900), S:177

Buscille

Harness, H:63 with diagram Horse (Riding equipment), H:294 Kite (How kites fly), K:291

Brief [law], B:570

Brief History of Time: From the Big Bang to Black Holes (book by Hawkingl

Hawking, Stephen, H:86 Brief Lives book by Aubreyl Aubrey, John, A:734

Biography (The 1600's), B:301

Brier Pipe, P:515 with picture Rose, R:397

Brieux, Eugène [French playwright], B:570

Brig, B:570 with picture Brigadoon [musical by Lerner] Lerner, Alan Jay, L:184

Brigalow, B:571 with picture

Briggs-Vlacq tables Briggs, Henry, B:571 Logarithms (History), L:361

Briggs, Henry (English mathematician) B:571

Logarithms (History), L:361 Brigham Young and the Pioneers (sculpture by Dallin) Dallin, Cyrus Edwin, D:11

Bright spot Gas (Exploring for gas), G:51

Bright spot technology Petroleum (The seismograph), P:342

Bright tobacco

Tobacco (Kinds of tobacco), T:270 Bright, John (English orator), B:571 Bright, Richard [English doctor], B:571 Brightness

Colour (Characteristics of colour), Ci:199

Brightness measurement

Astronomy, A:695 Brighton [England], B:571 with picture Sussex (Places to visit), So:449

Brighton Car Rally, B:571 with picture **Bright's disease**

Bright, Richard, B:571 Kidney (Kidney diseases), K:245

Nephritis, N:77 Brigitta, Saint Bridget, Saint, B:570 Brimstone and Treacle [play by Potter] Potter, Dennis, P:721 Brindled gnu Gnu. G:218 Brindley, James [British engineer], B:572 Bridgewater, Duke of, B:570 ice (How ice is manufactured), 1:5 lodine (Sources of iodine), 1:325 Mining (Pumping methods), M:494 Olive (Harvesting and preparation for market). 0:429 Salt. S:55 Trona, T:413 Brine shrimp Crustacean picture on, Cl:467 Bring 'Em Back Alive [book by Buck] Buck, Frank, B:608 Bring Larks and Heroes Ibook by Keneally) Keneally, Thomas, K:215 Bringing Up Baby [film] Film industry (Films in the 1930's). F:102 with picture Grant, Cary, G:296 Hawks, Howard, H:87 Brink, André [South African writer], 8:572 Brinsmead, Hesba Fay Australian writer], B:572 Briosco, Andrea [Italian sculptor] Sculpture (Early Renaissance), S:211 **Briquette** ice (How ice is manufactured), I:6 Brisbane, Sir Thomas (Australian statesmanl, B:576 Brisbane, B:572 Macarthur, John (Disrupting politics), Queensland (Early settlement), Q:25 Squatters in Australia (Free settlers), Brisbane [Australia], B:572 with picture and map Australia, History of (Growth), A:808 Queensland, Q:18; (Manufacturing) Q:24 picture on Q:25 Brisbane Line, B:576 Brisbane River, B:576 Oxley, John (Coastal surveys), 0:537 Bristle, B:576 Bristlecone pine, B:576 with picture Bristlemouth Fish picture on, F:164 Bristol (England), B:577 with picture Avon (Places to visit), A:892 Bristol Channel, B:578 Britain, B:578 Canal, C:110 Car, C:163 Democracy, D:103 Rain (Rainfall distribution), R:116 Stately homes of Britain and Ireland, So:297 with pictures United Kingdom, U:42

Britain, Battle of Air force (Famous air battles), A:199 Battle of Britain, B:157 Churchill, Sir Winston (The Battle of Britain), C:508 United Kingdom, Armed services of the (World War II), U:80 with pic-World War II (The Battle of Britain), W:385 Britannia (classical figure), B:578 with picture England (The Roman conquest), E:273 Britannia metal, B:578 Pewter, P:355 Britannia (book by Camden) Camden, William, C:51 Britannia (ship) Cunard, Sir Samuel, Ci:497 British Academy, B:578 British Airways (airline) Airline (table), A:208 British America, B:578 **British American Tobacco Industries** Group, B:578 British Army Aeropiane No. 1 United Kingdom, Armed services of the (History), U:79 **British Army** Army, A:592 United Kingdom, Armed services of the, U:66 **British Art Centre** Architecture picture on, A:539 **British Association for the Advance**ment of Science, B:578 **British Boxing Board of Control** Boxing (Boxing in Britain and Ireland), B:497 **British Broadcasting Corporation** (BBC), B:578 Communication (The development of modern communication), Ci:234 with picture England (Way of life), E:266 London (Communications), L:372 Propaganda (Gaining people's trust), P:804 Radio (Government regulation of radio), R:79; (The golden age of radio) R:81 with picture Television, T:118 United Kingdom (Communication), U:64 British Cameroons, B:579 Cameroon (History), C:60 British classical school Laissez faire, L:16 British Columbia, 8:579 with picture

Canada, C:76

Douglas, Sir James, D:272

British constitution, B:580

Australia, History of (The British Em-

pire and its trade), A:800

British Council, B:580

British Empire

British Guiana British India W:161 1:369 B:580 A:531 L:369 **British Navy** Navy, N:58 the, U:66 history) tion), C:92 C:100 tion R:256 **British Commonwealth of Nations** Commonwealth of Nations, Ch225

Kipling, Rudyard, K:286 Rhodes, Cecil John, R:256 United Kingdom, History of the, U:124 Guyana (History), G:434 **British Honduras** Belize (History), B:227 Bangladesh, B:88 India, History of, 1:111 Pakistan (The rise of British influence), West Bengal (European traders), British Indian Ocean Territory, B:580 **British Interplanetary Society** Space exploration (The first space rockets), So:140 British Isles, B:580 British Legion, The Royal, B:580 British Library, B:580 London (Museums and libraries), British Lions (sport) Rugby football (Rugby Union-Organization), R:445 **British Medical Association (BMA),** British Museum (London), B:581 Architecture (The Greek Revival), London (Museums and libraries), Museum (History museums), M:719; (General museums) M:719; (Museums of the 1700's) M:720 United Kingdom, Armed services of British North America Act (Canadian Canada, Government of (The constitu-Canada, History of (Confederation), **British Overseas Airways Corpora-**Airline (table), A:208 British Petroleum (BP), B:581 British Sign Language (BSL) Deafness (Special aids and communication techniques), D:57 Sign language, S:414 with pictures **British Somaliland** Somalia (History), So:36 **British South Africa Company** Rhodes, Cecil John (Gains Rhodesia), Zambia (History), Z:488 Zimbabwe (History), Z:496 **British Telecom (BT)** Telephone (United Kingdom), T:109 British thermal unit [unit of measure], Air conditioning (Choosing a room air conditioner), A:193 Calorie, C:44 Gas (The composition of natural gas),

C:55 **Brobdingnag Bronchi** [anatomy] Heat (Temperature and heat), H:117 Gulliver's Travels, G:427 Human body (The air passages), H:355 **British Union Flag** Swift, Jonathan (Gulliver's Travels), Trachea, T:323 Flag (Historical flags of the world), So:481 F:211 Brocade [fabric], B:583 Bronchial asthma Jacquard, J:10 Asthma, A:678 Union Jack, U:27 Bronchial tube [physiology] United Kingdom (in brief), U:44 Jacquard, Joseph Marie, J:9 Bronchitis, B:586 **British Virgin Islands** Broca's area Lung (Parts of the lungs), L:414 Virgin Islands, British, V:402 with pic-Brain (In the use of language), B:515 Bronchiole (anatomy) ture and map with diagram **British West Indies, B:581** Broccoli, B:583 with picture Emphysema diagram on, E:232 Britons See also Cabbage; Cauliflower Human body (The air passages), H:355 England (The first invaders), E:273; Lung (Parts of the lungs), L:414 with di-(The Germanic invasions) E:274 Scotland, History of, S:167 agram Scotland, History of, S:168 Brockhaus, Friedrich Arnold (German Bronchitis [disorder], B:586 Brittan, Sir Leon [British politician], bookselleri Lung. L:415 B:581 Encyclopedia (Today's encyclopedias), **Bronchogenic cancer** Brittany [France], B:581 E:241 Asbestos (Hazards of asbestos), A:618 Brittany igundogi, B:582 Brod, Max [Hungarian author] Bronchoscope (instrument), B:586 Dog (picture: Sporting dogs), D:226 Kafka, Franz, K:179 Endoscope, E:244 **Brittany-Normandy Hills** Brodsky, Joseph [Soviet-born author], Instrument, Scientific (Telescopes), France, F:404 B:584 1:267 Britten, Benjamin (British composer), Nobel Prizes (Literature), N:233 Bronco [horse], B:586 B:582 Broglie, Louis de French physicist Cowboy (His horse), Cl:406 Britten, Lord Atom (The first descriptions of atomic Remington, Frederic, R:212 with pic-See Britten, Benjamin structure). A:729 Brittle star (sea animal), B:582 with pic-Born, Max. B:469 Rodeo, R:329 Quantum mechanics (History), Q:6 Bronco Buster (sculpture by Reming-Brno [Czech Republic], B:583 **Brogue** (accent) Broaching Ireland (Language), I:355 Remington, Frederic, R:212 with pic-Machine tool, M:17 Brogue (shoe) Broad bean, B:583 Tartan, T:45 Brong brong (animal) **Broad-billed roller** Broiler Jammu and Kashmir (Plants and anl-Roller, R:333 Poultry (Raising poultry), P:726 mals), J:26 **Broad Church Broiling** Brongniart, Alexandre [French geolo-Anglicans (Doctrines), A:368 Cooking, Ch333 Broad-leaved India rubber plant Geology (Experimental geology), G:93 Meat (How meat is cooked), M:298 Gardening (Some popular house Broken Hill (Australia), B:584 with pic-Bronhill, June (Australian sopranol, plants) picture on, G:41 ture B:586 **Broad-spectrum antibiotic** New South Wales (Mining), N:132 Bronowski, Jacob (British scientist), Broken Hili Proprietary Co. Ltd. Antibiotic (Antibacterial antibiotics), B:587 As456 (BHP), B:584 Bronstein, Lev Davidovich Medicine (The medical revolution). Iron Knob (Australia), 1:403 Trotsky, Leon, T:417 M:317 Newcastle [Australia], N:177 with pic-Bronte, Anne [English author] **Broadcasting** Brontë sisters, B:587 with picture Aerial (Transmitting aerials), A:70 Rasp, Charles, R:140 Brontë, Charlotte (English author) Baird, John Logie, B:33 Broken Jug, The (book by Kleist) Bronte sisters, B:587 with picture Frequency band, F:455 Kleist, Heinrich von, K:295 Brontë, Emily English authorl Frequency modulation, F:455 Broken orange pekoe fannings Brontë sisters, B:587 with picture Journalism, J:149; (Radio) J:150; (Televi-Tea (Grades of tea), T:79 Brontë, Patrick sion) J:150; (In free societies) Broken Soll [play by Colum] Brontë sisters, B:587 J:151; (Television journalism) J:151 Colum, Padraic, Ck203 **Brontosaurus** Television, T:131 **Broken wind** Dinosaur (Saurischians), D:177 Broadcloth [fabric], 8:583 Heaves. H:129 Bronx, The **Broadhembury** [England] **Broker** (economics) New York City, N:146 Devon (Places to visit), D:147 Cotton (Selling), Cl:387 Bronze Age, B:588 Broadland (England), B:583 Investment (Stock markets), 1:323 Aegean civilization, A:67 Broadleaf tree Stock exchange, So:328 Bronze (History), B:588 Tree, T:374 with pictures Brolga, B:585 with picture Iron Age, 1:385 **Broadloom carpeting** Bird picture on, B:333 Lake dwelling, L:22 Prehistoric people (The end of prehis Rugs and carpets, R:449 Crane (Kinds), Ci:416 Broads [England], B:583 Brome grass, B:585 toric times), P:760 **Broadstairs** Bromeliad, B:585 Tool (History of tools), T:297 Thanet, T:186 Bromide, B:585 Bronze, B:587 with pictures **Broadway** Bromine (element), B:585 Alloy (Kinds of alloys), A:278 New York City (The arts), N:150 Element, Chemical, E:195 Bronze Age, B:588 Theatre (United States), T:202

Halogen, H:25

Bromley [England], B:586

Bromsgrove [England], B:586 with pic-

Broadwood, John [British piano maker],

9:583

Copper, Ci:341

Prehistoric people (The end of prehis-

toric times), P:760

Sculpture (China), S:200; (Etruscan sculpture) S:207; (The 1000's) 5:209

Tin, T:258

Bronze bream Bream, **B:550**

Brooch (jewellery) Jewellery, J:109

Pin, P:502 with pictures

Brood

Duck (The life of a duck), D:338

Brood nest

Bee (The honey bee colony), B:185

Brood parasite

Bird (Foster parents), B:348

Brook

River (The source of a river), R:289

Brook Farm [U.S.A.], B:589

Brook lamprey

Lamprey, L:38 with picture

Brook trout

Fish picture on, F:166

Trout (Kinds of trout), T:419; (Other trout) T:420 with picture

Brook, Peter Stephen Paul (British producer), B:589

Brooke, Arthur [English author] Shakespeare, William (Romeo and

Julieti, S:312

Brooke, Leonard Leslie English portrait painter], B:589 with portrait

Brooke, Rupert Chawner [British poet), B:589

Brooke, Sir James, B:589 Borneo (History), B:471

Sarawak (History), S:89

Brookeborough, Lord (prime minister of Northern Irelandl, B:589

Brookings Institution, B:590

Brookings, Robert S.

See Brookings Institution

Brooklands Museum (England) Surrey (Places to visit), So:444

Brooklyn

New York City, N:146

Brooklyn Bridge, 8:590 with picture New York City (Formation of Greater New York), N:151

Brooks Range

Rocky Mountains (Chief ranges of the Rockies), R:327

Brooks, Gwendolyn | American poetl, B:590

American literature (Poetry), A:319 with portrait

Broom, **B:**590

Broom, Robert (Scottish palaeontologisti, B:590

Sterkfontein Caves, So:319

Broomcorn

Sorghum (Broomcom), **So:45**

Broome [Australia], B:591

Broome, David (British showjumper), B:591

Brother

Friar, F:458

Brother-in-law

Family (Family relationships), F:20 Brother to Dragons (work by Warren) Warren, Robert Penn, W:40

Brotherhood

Senegal (People), S:251

Brothers, The [play by Terence] Terence, T:153

Brothers Karamazov, The Inovel by Dostoevsky!

Dostoevsky, Fyodor, D:271

Novel (Russia), N:313

Russian literature (The 1860's and 1870's). R:499

Brotulid fish

Fish picture on, F:164

Broughton, jack (English boxer)

Boxing (The beginning of modern boxing). B:498

Broughton, William Grant [Australian religious leader], B:591

Brouwer, Adriaen [Flemish painter], B:591

Brouwer, Hendrik (Dutch explorer) Dutch explorers, D:359

Hartog, Dirk, H:71

Brouwer, Luitzen [Dutch mathematicianl

Mathematics (Philosophies of mathematics in the 1900's), M:260

Brown, Alexander Crum (Scottish chemist), B:591

Brown, Capability [landscape gardener], B:591

Landscape architecture, L:45

Brown, Christy [!rish author], B:592 Handicapped, H:44

Brown, Father [literary figure] Chesterton, G. K., C:385 Detective story (The pattern), D:136

Brown, George Douglas (Scottish author]

Scottish literature (1800-1900), S:177

Brown, George Mackay (Scottish writerl, B:592

Scottish literature (After 1900), S:177

Brown, John American social reformer], B:592 with pictures Tubman, Harriet, T:435

United States, History of the (Social disorder), U:251

Brown, Lancelot

See Brown, Capability

Brown, Louise [first test-tube baby] Test tube baby (History), T:162

Brown, Marcia Joan (American illustratorl. B:592

Brown, Mount (British publisher) Stamp collecting (Origins), So:270

Brown, Nathaniel (American sealer) Antarctica (Exploration), A:442

Brown, Robert (Scottish botanist), W-892

Brown, Sir Arthur Whitten British aviatorl

Alcock and Brown, A:236 with picture

Brown, William [English sea captain] Honolulu, H:272

Brown algae

Algae, A:250

Seaweed (Kinds), S:232

Brown and Sharpe gauge

Wire (Sizes of wire), W:277

Brown-banded cockroach Cockroach, Cl:142

Brown bear

Animal pictures on, A:386

Bear, B:167; picture on B:168; (Big brown bears) B:169 with picture and diagram

Grizzly bear, G:380 with picture Mammal picture on, M:133

Brown boronia

Boronia, B:471 Brown bullhead

Bullhead, B:642

Brown coal

Coal (Uses of coal), Cl:121 Fuel (Solid fuels), F:478 Gippsland, G:164

Lignite, L:274

Brown falcon (bird)

Falcon (Smaller falcons), F:14 Brown fat

Warm-blooded animal, W:40 Brown-headed cowbird

Cowbird, Ci:404 with picture

Brown hyena Hyena, H:409 Brown kiwi

Kiwl, K:294

Brown lung (disease), B:592

Brown-necked raven Raven, R:146

Brown pelican

Pelican, P:247 with picture

Brown rat Rat, R:141

Brown recluse [spider], B:593 with picture

Brown rot

Fungicide (Inorganic fungicides), F:487

Peach (Diseases), P:227 Rot. R:405

Brown snakes, B:593 with picture

Brown solenodon Solenodon, So:29

Brown Swiss

Cattle (Dairy cattle; picture), B:273 picture on B:275

Brown-tail moth, B:593 with picture Tussock moth, T:474

Brown thrasher, B:594 with picture

See also Mockingbird

Thrasher, T:228 Brown trembler [bird]

Thrasher, T:228

Brown trout

Fishing (Game fishing), F:185 Trout (Kinds of trout), T:419; picture on T:420

Brown v. Board of Education of

Topeka Segregation (The beginning of

change), S:239 United States, History of the (Poverty

and discrimination), U:260 Browne, Charles Farrar

Ward, Artemus, W:39 Browne, Hablot Knight [British artist]

Bannockburn, Battle of, B:97 Dickens, Charles picture on, D:161 Barbour, John, B:108 Browne, Sir Thomas [English author David II, D:45 and physicianl, B:594 Electricity (History), E:171 Edward !, E:93 Browne, Thomas Alexander Aus-Scotland, History of (The War for Indetralian writer pendence), S:169 with picture Bruce, Sir David (British surgeon), Australia, Literature of (The development of the novel), A:830 B:596 Boldrewood, Rolf, B:423 Bruce, Stanley | Australian political **Brownian motion** leaderl, B:596 Brown, Robert, B:592 Australia, History of (Politics), A:818 Einstein, Albert (The papers of 1905), Brucellosis [disease], B:597 E:131 Bruce, Sir David, B:596 Fractal, F:382 Cattle (Diseases), C:276 Ion (Behaviour of ions), 1:326 Veterinary medicine, V:352 Suspension, So:447 Bruch, Max (German composer), B:597 Brownie [British folklore], B:594 Brücke, Die (art) Brownles Expressionism (Expressionist painting), Girl Guides and Girl Scouts, G:167 E:431 with pictures Painting (Expressionism), P:80 Browning automatic rifle Bruckner, Anton (Austrian composer), Browning, John Moses, B:595 8:597 with portrait Browning machine gun Austria (Music), A:860 Browning, John Moses, B:595 Classical music (The romantic era), Machine gun (Antiaircraft weapons), CE61 M:14 Browning Version, The play by Rattigan] Rattigan, Sir Terence, R:144 Browning, Elizabeth Barrett (British poetl, B:594 with portrait Browning, Robert (Browning's life). B:595 Sonnet, So:42 Browning, John Moses [American inventor), B:595 Browning, Robert (British poet), B:593 B:590 with portrait Browning, Elizabeth Barrett, B:594 Amica, A:597 November (Quotations), N:316 Brumbles Pied Piper of Hamelin, P:489 Poetry (Dramatic poetry), P:610 Brummell, Beau **Brownlow Medal** Australian Rules football (Awards for players), A:853 dandy), B:598 **Brownout** Electric power (providing reliable service), E:160 Browridge [anatomy] Prehistoric people (Homo erectus), P:752; (Neanderthals) P:756 Broxbourne (England), B:595 Broxtowe (England), B:595 engineer] Broz, Josip Tito, Josip Broz, T:267 ture Brubeck, Dave [American jazz musiciani, B:595 with portrait azz picture on, 1:78

Bruce, The [poetry by Barbour]

Australia, History of (Politics), A:819

Bruce, Mary Grant [Australian author],

Bruce, Robert (Scottish king), B:596

Bruce-Page administration

Barbour, John, B:108

Elgin, Earl of, E:210

See Bruce, Stanley

Bruce, James

Bruce, Lord

B:596

Bruegel, Pleter, the Elder (Flemish) painterl, B:597 with picture Belgium (The arts), B:218 Folklore picture on, F:287 Painting picture on, P:29; (Pleter Bruegel the Elder) P:58 Tower of Babel picture on, T:314 Bruges (Belgium), B:598 Belgium picture on, B:217 City picture on, Ch27 Bruhn, Erik (Danish ballet dancer), Bruise linjury), B:596 Australia (Language), A:751 See Brummell, George Bryan Brummell, George Bryan (English Brunel, B:599 with picture and maps Association of Southeast Asian Nations (ASEAN), A:673 Borneo (History), B:471 Flag picture on, F:204 Royal families, R:420 with picture Brunel, Isambard Kingdom (English Brunel, 8:600 with portrait and pic-Ship (Ships of Iron), \$:372 Brunel, Sir Marc Isambard (English engineer] Brunel, B:600 with portrait Knitting machine, K:305 Tunnel (History), T:445 Brunelleschi, Filippo Italian architecti, Architecture (Early Renaissance architecture), A:526 with picture Italy (Architecture), 1:456 Perspective, P:302 Renaissance (The fine arts), R:217 with picture

Brunhild (German mythology), B:601 Nibelungenlied, N:191 Valkyrie, V:302 Brünn Brno, B:583 Brunner, Thomas [British explorer]. Bruno, Giordano Italian philosophei B:601 Brunswick [Germany], B:601 Braunschweig, B:526 Brush [mechanics] Electric generator (Alternating curren generator), E:148 with diagrams Electric motor (The commutator), Bit Brush |tool Paint (Applying the paint), P:25; (Type of paint applicator) P:26 with pic Painting (Painting materials), P:38 with picture; (Watercolour painting) P-40 Teasel, T:81 **Brush-footed butterfly** Butterfly, B:682 with pictures **Brush wolf** Coyote, Cl:411 Brussels (Belgium), B:601 with picture Architecture (Early modern architecture in Europe), A:532 with pic-Belgium (Recent developments), B:22 Brussels griffon, B:602 Dog (picture: Toy dogs), D:235 Toy dog, B:322 Brussels lace Lace, L:7 with picture Brussels sprouts, B:602 with picture Brut, The [book by Layamon] Round Table (Origin), R:411 Brut [Roman mythology], B:603 Bruton, John, B:603 Bruton, John Iirish politiciani, B:603 picture on, 1:364 Brutus, Marcus Junius (Roman states manl, B:603 Antony, Mark, A:466 Caesar, Julius (Assassination), C:13 Casslus Longinus, Gaius, C:230 Philippi, P:368 Brutus book by Cicerol Cicero, Marcus Tullius (His works), Bryan, John Neely | American trader Dallas (History), D:10 Bryan, William Jennings (American politicianl, B:603 with portrait Darrow, Clarence Seward, D:37 Populism (The People's Party), P:687 Bryant, Gridley American engineer B:603 Bryant, Sir Arthur British historian B:603 Bryant, William Cullen | American poetl, B:603 with portrait American literature (Literature of a young nation), A:311; (Poetry)

A:314

Bo tree. B:412

Dharma, D:151

Bodhisattva, B:417

China pictures on, C:448

Buddhism, B:615

Bryaxis [Greek sculptor] Seven Wonders of the Ancient World (The Mausoleum at Halicamassus), S:282 with picture Bryce Canyon National Park [U.S.A.], B:604 Bryce, David (Scottish architect), B:604 Bryde's whale Whale, W:207 Brymer, Jack (British clarinetist), B:604 é halušky [food] Slovakia (Food and drink), S:490 Brynhild Brunhild, B:601 Bryophyte, B:604 Plant, P:546 Bryozoan, B:605 with picture Animal (A classification of the animal kingdom), A:414 Earth (The Palaeozoic Era), E:27 Seashore (Life on rocky shores), S:228 British thermal unit, B:581 Buade, Louis de Igovernor general of New Francel New France (Exploration and settlement), N:112 Bubble chamber (physics), B:605 Alvarez, Luis Walter, A:296 See also Wilson cloud chamber Xenon, X:432 Bubble gum, B:605 **Bubble package** Packaging, P:18 **Bubble tower** Petroleum (Fractional distillation), Buber, Martin ijewish philosopheri, B:605 **Bubi** [people] Equatorial Guinea (People), E:315; (History) E:316 Bubiyan lisland, Kuwaitl Kuwait (Land), K:344 Bubonic plague, B:605 Cat (History), C:254 Epidemic, E:312 Great Plague, G:324 Middle Ages (A halt in progress), M:451 Rat. R:141 See also Black Death Buccaneer Haiti (History), H:18 Bucephalus Alexander the Great (His boyhood), B:270 Horse (table), H:304 Buch, Leopold von [German geologist] Geology (The rock dispute), G:93 Buchan

See Banff and Buchan

Tartan picture on, T:48

Buchanan, James, B:606

Buchanan piald

ture

Blichner, Georg [German writer], B:607 Opera (Wozzeck), 0:474 Buchwald, Art [American journalist], B:607 Buck, Dudley A. [American scientist] Cryotron, Ci:468 Buck, Frank [American hunter], B:608 Buck, Pearl S. [American author], B:608 Buck, Sir Peter [Maori leader], 8:608 **Bucking bar** Riveting, R:293 Buckingham Palace, B:608 with pic-London (Palaces), L:370 Royal Family of the United Kingdom (Royal houses), R:425 Buckingham, Duke of English nobleman], B:608 Buckinghamshire (England), 9:608 with pictures and map Arms picture on, A:585 See also list of Related Articles **Buckland Abbey (England)** Devon (Places to visit), D:147 Drake, Sir Francis (Voyage around the world). D:281 Buckler (armour) Gladiator, G:176 Shield, S:358 **Buckley, Vincent** [Australian writer] Australia, Literature of (Modern short stories), A:832 Buckley, William (Australian settler), B:611 Port Phillip Bay, P:694 Buckley, William F., Jr. [American journalistl, B:611 Buckskin (leather), B:611 Indian, American (Clothing), 1:139 Buckthorn, B:611 with picture Buckwheat, B:611 with picture **Bud** [biology] Embryo (Human development), E:227 Bud [botany], B:612 with pictures Bulb, B:631 See also Budding Leaf (The life story of a leaf), L:127 Plant (Stems), P:554 with picture; (Germination) P:560 with picture Tree (How trees grow taller), T:379 **Bud** [Teeth] Teeth (Deciduous teeth), T:90 **Bud** grafting Grafting, G:284 **Bud** scale Leaf (The life story of a leaf), L:127; (Specialized leaves) L:131 Buchan, John [Scottish author], B:606 Budapest [Hungary], B:612 Scottish literature (1800-1900), S:176 Hungary, H:373 with pictures **Budd**, Lanny Sinclair, Upton, S:432 Buddenbrooks (book by Mann) Bucharest (Romania), B:607 with pic-Mann, Thomas, M:163

Buddha, B:613

Romania, R:349 with pictures

Buchenwald [concentration camp],

Balkans (The second Balkan War), B:44

Bucharest, Treaty of

B:607

India, Art of, I:84 with picture Monasticism (Non-Christian monasticism), M:544 Nepal (People), N:75 Religion (Buddhism), R:202 with picture Sculpture (India), S:197; ChinaS:199; (Sri Lanka and Southeast Asia) S:200 with pictures Tibet (Religion and culture), T:237 Buddhism, B:615 See also list of Related Articles Arunachai Pradesh (History), A:617 Asia (Religions), A:625 Bangladesh (Religion), B:85 Bihar (History), B:289 Bodhisattva, B:417 Borobudur, B:471 Buddha, B:613 China (Religion), C:444 Dharma, D:151 Ethics (Other religions), E:336 Feasts and festivals with picture, F:40 God, G:224 India (Other religions), 1:65 Indonesia (Indian influence), 1:192; Religion I:184 Japan (Religion), J:43 Korea (Religion), K:325 Kushan Empire, K:343 Lamaism, L:33 Malays, M:81 Missionary, M:509 Monasticism (Non-Christian Monasticism), M:544 Nepal (People), N:75 Nirvana, N:221 Pacifism, P:17 Painting (Indian painting), P:48; (Japanese painting) P:50 Religion, R:202 Religious life, R:209 Saint (Non-Christian saints), 5:27 Sculpture (India), S:197; (China) S:200 with picture; (Korea) S:201 with picture; (Japan) S:201 Shinto, S:360 Sri Lanka (People), So:256 Thailand (Religion), T:182 Tibet (Religion and culture), T:237 Tokyo (Religion), T:283 **Buddhist triad** Sculpture (Korea), S:201 with picture Budding

Animal (Asexual reproduction), A:404

Coral (How coral is formed), Cl:348

Peach (Growing peach trees), P:226

Budge, Don [American tennis player],

Reproduction (Through asexual repro-

Fungi (How a fungus lives), F:485

Portuguese man-of-war, P:708

duction), R:224

B:618

Budgerigar

Bird picture on, B:318

Architecture, A:512

Parakeet, P:167 picture on P:168 Construction equipment, Ci:310 with Music picture on, M:734 picture Sofia, So:16 with picture Parrot (Kinds of parrots), P:200 World War I (Eastern Europe), W:369 Crane, Ci:416 with pictures and dia-Budget [finance], B:619 World War II (table: The Axis), W:381; Buena Vista, Battle of grams (table: Military casualties) W:407 Mexican War (Principal battles), M:396 Earthquake (Reducing earthquake **Bulgarian Macedonia** Buenaventura [Colombia], B:620 damage), E:35 with diagram Buenos Aires [Argentina], B:620 Macedonia, M:8 Engineering (Civil engineering), E:255 Argentina, A:551 with pictures with picture Bulge, Battle of the Buff (duck) Helicopter (For transportation and Ardennes Mountains and Forest, A:549 Duck picture on, D:340 construction work), H:138 Luxembourg (History), L:422 World War II (The drive to the Rhine), Buffalo (animal), B:622 with pictures House (Building a house), H:323 Indian, American (Indians of the Laser (Guiding), L:71 W:394 Plains), 1:154 Pile, P:499 Bullmla, B:639 Water buffalo, W:84 Skyscraper, S:477 Anorexia nervosa, A:426 Buffalo [U.S. city], B:622 Strength of materials, \$0:353 **Bulk blend fertilizer** Buffalo Bill [American frontiersman], **Building society, B:629** Fertilizer (Production and sale), F:60 B:624 with picture **Building stone, B:630 Bulk carrier** Oakley, Annie, 0:375 See also list of Related Articles Ship (Dry bulk carriers), \$:379 Buffalo fish, B:624 with picture **Building trade, B:630** Bulk-oll carrier **Buffalo grass** Buildings of England, The (work by Tanker (Combination carrier), T:29 Grass (Kinds of grasses), G:303 Pevsner] Bull ant, B:639 **Buffalo Lodges, B:625** Pevsner, Sir Nikolaus, P:355 Ant. A:434 **Buffer zone Bulang Valley Historical Park Bull** [animal] Imperialism (Motives), 1:46 [Malaysia] Bullfighting, B:640 with pictures Buffet Kedah (Places to visit), K:209 Cattle, C:270; (Breeding) C:275 Restaurant (Table-service restaurants). Bujumbura (Burundi), B:631 Deer, D:78 R:241 Bukovina Dolphin (The life of dolphins), D:253 Buffon, Comte de [French naturalist] Romania, R:354 Elephant (Kinds of elephants), E:203 Evolution (Early theories), E:412 Bulatović, Momir Reindeer, R:190 Buffoonery Montenegro (History), M:575 Whale (Reproduction), W:209 Humour, H:371 Bulawayo (Zimbabwel, B:631 with pic-**Bull** [constellation] Bug (computer) ture Taurus, T:68 Computer (Preparing a program), Builb Bull [papal], B:639 Ci:261 Edison, Thomas Alva (The electric **Bull** stock market Bug [entomology], B:625 light), E:81 Bears and bulls, B:173 See also list of Related Articles Electric light (The bulb), E:150 **Bull kelp** Buganda Bulb (plant), B:631 Seaweed picture on, S:231 Royal families (Africa), R:422 with pic-Flower (Garden perennials), F:248 with **Bull market** pictures Bears and bulls, B:173 Uganda (History), U:3 Gardening (Starting the garden), G:38 **Bull riding** Bugbane, B:625 with picture Stem (Specialized stems), So:316 Rodeo, R:329 Bugging Vegetable (Plant parts used as vegeta-Bull roarer, B:639 Industrial espionage (Espionage techbles), V:321 **Bull shark** niques), 1:208 **Bulb-wall blackening** Fish picture on, F:160 Telephone tapping, T:111 Electric light (Incandescent lamps), Shark, S:333 Bugis (tribe), B:625 E:149 **Bull terrier, B:639** Selangor (History), S:242 **Bulbar paralysis** Bulldog, B:639 Bugle (wind instrument), B:625 Pollomyelitis (Kinds of pollomyelitis), Dog picture on, D:232 **Bulck Motor Company** P1646 Terrier, T:158 Buick, David Dunbar, B:626 Bulbul, B:632 with picture Bull, Henryk Johan (Norwegian busi-Nash, Charles William, N:26 Bulfinch, Charles [American architect], nessmanl Buick, David Dunbar (American busi-Antarctica (Early exploration), A:442 nessmani, B:626 Architecture (Neoclassical architec-Bull, John [English composer], B:639 Building ture), A:529 with picture Architecture (Elements of architec-Bulfinch, Thomas [American writer], Bill, B:292 ture), A:516 B:632 Bull (papal), B:639 Insulation (In buildings), 1:269 Bulfinch's Mythology book by Bul-Clothing (The Romans), Ci:99 See also Building construction finch] Bullbat Town planning (Building new commu-Buiffinch, Thomas, B:632 Nighthawk, N:215 nities), T:318 Bulganin, Nikolai Aleksandrovich Buliboat **Building** brick (Russian political leader), B:632 Indian, American (Transportation), 1:140 Brick. B:557 Bulgaria, B:633 with pictures and maps **Buildog** bat **Building** code See also list of Related Articles Bat (Kinds of bats), B:148 Housing, H:330 Aviation (Aircraft nationality marks), Buildog, B:639 Building construction, B:626 with pic-A:RR1 Dog picture on, D:235 Communism (In Eastern Europe), Cl:244 Pit bull. P:523 See also list of Related Articles

Europe (table), E:359

Flag picture on, F:207

Carpentry, C:208

Macedonia (History), M:9

Buildog Drummond (book by du

Maurierl

Buran (space shuttle)

du Maurier (Sir Gerald du Maurier), D-344 **Bulldog pickerel** Pickerel, P:487 Bulldozer, B:639 Bullet, B:639 Ammunition, A:335 with pictures Ballistics, B:59 with picture Rifle pictures on, R:276 Bullet comparison microscope Police laboratory (Analysing the evidence), P:644 **Builet-resisting glass** Glass (Kinds of glass), G:190 Bullet train Transportation picture on, T:357; (Improvements in intercity train services) T:362 Bulletin, The [magazine], B:640 Australia, History of (Nationalism), A:013 Australia, Literature of (The Middle Period), A:830 Bullfighting, B:640 with pictures Hat picture on, H:76 Mexico (Recreation), M:407 with pic-Portugal (Way of life), P:699 with pic-Spain picture on, So:165 (Recreation) So:174 Bullfinch, B:641 with picture Bullfrog, B:641 with picture Bullhead, B:642 with picture Sculpin, S:185 **Bullhorn** acacia Acacia, A:17 Bullhorn Megaphone, M:325 Builion, B:642 Bullmastiff, B:642 with picture Bullock teams, B:643 Bullock, William [American printer] Printing (New presses and typecasting machines), P:787 **Bullock's heart** Custard apple, Ci:505 Builring Bullfighting, B:640 with picture Bulrush, B:643 See also Cattail; Papyrus; Sedge Rush, R:460 Bulwer-Lytton, Edward George Earle Lytton [English writer], B:643 **Bulwer, Sir Henry** Clayton-Bulwer Treaty, Ci:71 Bumble bee, B:643 with pictures Animal with picture, A:392 Bee, B:189 Insect (table), 1:262 Protective coloration picture on, P:813 Bunbury (Australia), B:644 with picture Bunchberry, B:644

Flower picture on, F:252

Nobel Prizes (Peace), N:233

Bundaberg (Australial, B:644

statesmanl, B:644

Bundesrat

Bunche, Ralph Johnson (American

Austria (The Parliament), A:857 Germany (Parliament), G:118; (The German Empire) G:134 **Bundestag** [government] Germany (Parliament), G:118: (The German Confederation) G:133 Bunin, Ivan [Russian author], 8:644 Nobel Prizes (Literature), N:232 Russian literature (Symbolism), R:500 Bunion [disorder], B:645 Bunker Golf (The course), G:245 Bunker Hill, Battle of, B:645 American Revolution, A:325 Bunkhouse Ranching (History), R:134 Bunny ears cactus Gardening (Some popular house plants) picture on, G:41 **Bunratty Castle** Ireland, 1:351 with picture Bunsen burner, B:645 with picture Bunsen, Robert Wilhelm, B:645 Bunsen, Robert Wilhelm (German chemistl. B:645 Astronomy (The development of spectral analysis), A:699 Bunsen burner, B:645 Caesium, C:14 Cooker (History), Cl:333 Optics (History), 0:480 Rubidium, R:441 Bunting, B:645 Indigo bunting, £180 with picture Bunton, Haydn (Australian Rules footballerl, B:646 Buñuel, Luis (Spanish-born film director], B:646 Dali, Salvador, D:9 Film industry (Postwar realism), F:104 Bunya ceremony, B:646 Bunyan, John (English writer), B:646 Bedford, B:181 Redfordshire, B:181 Bunyan, Paul (American folklore), B:646 Bunyip (legendary animai), B:647 Buonaparte, Carlo Napoleon I (Boyhood), N:18 Buonaparte, Letizia Ramolino Napoleon I (Boyhood), N:18 Buonarroti, Michelangelo Michelangelo, M:433 Buoy, B:647 with pictures Boating (Buoys and other safety aids), R:415 Ocean (Research ships), O:399 Weather (Other observation facilities), W:120 **Buoy** boat Whale (Modern whaling), W:212 Buovancy Archimedes (His discoveries), A:511 Fish (Special organs), F:170 **Buoyant cushion** Life jacket, L:252 Bur grass

Sandbur, S:71 with picture

Burakumin (people)

Japan (Ancestry), J:39

Space exploration (The Soviet space shuttle). So:160 Burbage, James (English producer), B:647 Shakespeare, William (Theatre buildings), \$:306 Burbage, Richard [English actor], B:647 Shakespeare, William (Acting companies), S:307 **Burbank** potato Burbank, Luther, B:648 Burbank, Luther American horticulturist], B:648 **Burbank's Seedling** Burbank, Luther, B:648 Burchfield, Charles Ephraim [American painter]. B:648 with picture **Burdekin Falls Dam** Burdekin River Irrigation Project, B:649 **Burdekin River Irrigation Project,** Queensland (Irrigation schemes), Q:24 Burdin, Claude (French engineer) Turbine (History), T:451 Burdock, B:649 with picture **Bureau of Indian Affairs (BIM)** Indian, American (Indians In the early and mid-1900's), 1:165; (The push for Indian rights) 1:166 Bureaucracy (government), B:649 Communism (The party state), Ci:240 Parkinson's Law, P:189 Red tape, R:174 Weber, Max, W:127 Burger, Warren Earl American chief justice), B:649 with picture Burgess, Anthony [English novelist], Burgess, Ernest W. [American sociologistl Collective behaviour, Cl:164 Burgess, Thornton Waldo (American authorl, B:650 Burgesses, House of House of Burgesses, H:327 Burgh, B:650 **Burghers** [people] Sri Lanka (People), So:256 **Burghley House (England)** Cambridgeshire (Places to visit), C:50 Burghley, Lord [English statesman], Bürgi, Jobst (Swiss mathematician) Logarithms (History), L:361 Burglar alarm, B:650 Burglary (crimel, B:650 See also Burglar alarm; Theft Robbery, R:300 Burgoyne, John [British general], 8:650 with picture American Revolution (Lexington and Concord), A:325; (Saratoga) A:327 with picture Burgraves, The [play by Hugo] Hugo, Victor Marie (Political activity), H:343 Burgundians [people] Nibelungenlied (The background),

Burlap, B:655 Joan of Arc, Saint (Joan sees the king), Jute, J:174 Textile (Natural fibres), T:169 J:121 Switzerland (Early days), So:499 **Burleigh**, Lord **Burgundy** [drink] See Burghley, Lord Grape picture on, G:297 Burlesque [entertainment], B:655 Wine (Wines from France), W:273 Drama (England), D:294 Burgundy (France), B:650 Humour, H:371 Belgium (The Middle Ages), B:221 **Burlington, Lord** (English architect) Maximilian I, M:273 Burhanuddin, al-Hemy [Malay political A:529 with picture leader]. B:651 Burial Australian Aborigines, A:838 with pic-Rurma article fure Catacombs, C:255 A:881 Funeral customs, F:484 with picture Clothing picture on, Ci:95 See also Grave Dancing (Oriental dancing), D:24 Maoris, M:177 Flag picture on, F:204 Necropolis, N:66 India (British India), 1:114 with map Papua New Guinea, P:147 Nu. U. N:317 Pyramids (Egyptian pyramids), P:872 Burma Road, B:662 Sarawak picture on, S:88 **Burma Socialist Programme Party** Sarcophagus, S:89 Tasmanian Aborigines (Disposal of the Burma (Socialist republic), B:661, dead). T:64 Tomb, T:292 0.661 **Burial mask** Burmese cat Mask, M:243 with pictures Burial of Count Orgaz, The Ipainting **Burmese glass** by El Grecol Greco, El. G:331 picture Painting (El Greco), P:61 Burmese War [1824-1826] Burled Day, The [work by Day-Lewis] Assam (History), A:670 Day-Lewis, Cecil, D:52 Burin [tool] Van Leyden, Lucas, V:312 Burke and Hare (Scottish criminals), Burner Burke, Edmund [British statesman]. Heating (Oil), H:128 B:651 Burnet, Sir Macfarlane (Australian Conservatism (History), Ci:305 doctor], B:662 Hastings, Warren, H:75 Burnett Tylor, Sir Edward (British an-Johnson, Samuel, J:134 thropologist) Burke, John [Irish publisher] Burke's Peerage, B:653 **Burnett, Frances Hodgson** [English-Burke, Martha Jane born author), B:662 See Calamity Jane Burney, Fanny English authorl, B:662 Burke, Ray [Irish politician], 8:651 Burnham, Daniel Hudson (American Burke, Richard (Irish politician), B:651 architectl, B:662 Burke, Robert O'Hara | Australian explorer), B:651 with map Australia (Land exploration), A:808 Exploration map on, E:425 (Crossing Baguio, B:27 Australia) E:426; (table) E:426 Root, John Wellborn, R:394 Burke, William (Scottish criminal) Burnie (Australia), B:663 Burke and Hare, B:653 Burning Burke's Peerage [book], B:653 Fire, F:125 Burkina Faso [Africa], B:653 with map Burning in Flag picture on, F:200 French West Africa, F:454 picture Ivory Coast (History), 1:476 Ouagadougou, 0:521 photographs), P:454 Burkitt's lymphoma Burnley [England], B:663 Cancer, C:120 Burnoose (clothing) Epstein-Barr virus, E:314 Berbers picture on, B:241 Burl Morocco (Way of life), M:612 Redwood, R:177 Burnouse (clothing) Wood (Wood figures), W:300 Algeria (Clothing), A:262

Architecture (The Palladian Revival), Burma, B:656 with pictures and maps See also list of Related Articles In the Aviation (Aircraft nationality marks), B:661; (Recent developments) Cat (Breeds of cats), C:246 with picture Glass (Types of art glass), G:198 with Burne-Jones, Sir Edward (British artist), Knights and knighthood picture on. Religion (The origin of religion), R:200 Architecture (Early modern architecture in America), A:534 with pic-Painting (Encaustic painting), P:42 with Photography (Printing black-and-white

Burns and scalds, B:664 First aid. F:144 Safety (in the kitchen), \$:9 with picture Skin, \$:470 Sunburn, So:423 Russes See Burns and scalds Burns, John British politicianl, B:663 Burns, Robert (Scottish poet), B:663 with portrait Auld lang syne, A:747 Bannockburn, Battle of, B:97 Scottish literature (1700-1800), S:176 Burns, Tommy [Canadian boxer] Boxing (Boxing champions), B:499 Burnside, Ambrose Everett (American general), B:664 with portrait "Burnt Norton" (poem by Eliot) Eliot, T. S. (His works), E:211 Baby (Feeding procedures), B:8 Burga [clothing] Pakistan (Rural life), P:93 Engraving, E:297 Burr, Aaron [U.S. senator] Jefferson, Thomas (Political career), J:80 Burra [Australia], B:664 **Burrington Combe [England]** Avon (Places to visit), A:892 Borro See Donkey Burrough Hill (England) Leicestershire (Places to visit), L159 Burroughs, Edgar Rice (American author). B:664 Burroughs, William (American inventor), B:665 Burroughs, William S. (American writer), **B:665** Burrow (animal home) Chipmunk, C:470 Mole. M:530 Muskrat, M:742 Prairie dog (Habitat), P:738 with picture Spider (The purse-web spider), So:216 with picture; (How spiders use silk) So:221; (Tarantulas) So:222 with picture; picture on So:226 Trap-door spider, T:365 with picture Woodchuck, W:303 **Burrowing owl** Owl (Kinds of owls), O:529 with picture

Bursitis (disorder), B:665

East Staffordshire, E:41

Burton, James [Australian writer]

Australia, Literature of (Other poetry),

Burton, Richard (British actor), B:665

Burton, Sir Richard Francis [British ex

Exploration (table), E:425; (The interior

of Africa) E:425 with map

Rheumatism, R:251

Burton upon Trent

plorer], B:665

Lake Tanganyika, L:29

Ruanda-Urundi, R:428

Shrike, S:400 with picture

Burundi, B:665 Bujumbura, **B:631** Flag picture on, F:200 Ruanda-Urundi, R:428 Rwanda, R:506 Bury [England], B:667 Bury St. Edmunds (England) Suffolk (Places to visit), So:389 Burying beetle, B:667 Animal (Providing food), A:406 Bus, B:667 with pictures Air conditioning (How we use air conditioning), A:190; (Kinds of air conditioners) A:193 Transportation (Land transportation), T:347 with picture; picture on T:355; (Public transportation) Bus Stop [play by Inge] Inge, William, I:233 Buschmann, Friedrich [German inven-Harmonica, H:62 **Bush baby** See Galago **Bush ballad** Australia, Literature of, A:831 Bush Ballads and Galloping Rhymes [poetry by Gordon] Gordon, Adam Lindsay, G:257 Australia, Literature of (The development of poetry), A:830 **Bush** (machinery) Bushing, B:671 **Bush clover** Lespedeza, L:187 **Bush cricket** Grasshopper, G:306 **Bush elephant** Elephant (Kinds of elephants), E:203 Bush Studies story by Baynton Australia, Literature of (Short stories), A:832 Bush wren Wren, W:414 Bush, George (U.S. president), B:668 with pictures Disarmament (History), D:186 Noriega, Manuel Antonio, N:243 Panama (Panama today), P:120 Quayle, Dan, Q:9 United States, History of the (Recent developments), U:264 Bush, Vannevar (American electrical engineerl, **B:669** Bushel [unit of measure], B:670 Bushfires, B:670 with picture Bushing (machinery), B:671 Bushlark Lark, L:65 Bushmaster [snake], B:671 with picture Viper, V:400 Bushmen See San

Bushnell, David [American inventor]

Submarine (Early submarines), So:371

Mine warfare (History), M:482

Torpedo (History), T:303 Bushrangers, 8:671 with picture

Caesar, John, C:12 Convicts in Australia (Pardons), CL322 Bushveld Northern Province (Land), N:277 Veld,, V:32 Bushveld Complex (geological feature), B:672 Business, B:672 Capital, C:143 Communication (In business and industry), Ci:228 Computer (Storing and retrieving Information), Ci:254 with picture Cooperative, Ch:337 Culture (The boundaries of culture), Economics (Business and profits), E:62 Inflation, I:229 Investment (Business investments), B323 Law (Private law), L:110 Marketing, M:213 Mathematics (In business), M:255 with picture **Business** company Public opinion poli (Who uses polls?), Business cycle (economics), B:675 Mitchell, Wesley Clair, M:518 Recession, R:161 **Business day** Day, D:51 Business for Pleasure (book by Balchinl Baichin, Nigel, B:38 **Business income** Income (Types of income), 1:52 Business law, B:676 Law (Branches of law), L:110 **Business letters** Letter writing, L:190 Bussy, A. A. (French chemist) Beryllium, B:261 Bustamante, Sir William Alexander IJamaican prime ministeri, B:676 Bustard, B:676 India picture on, I:70 Bustees Caicutta (People), C:29 Butadiene Furfural, F:491 Petrochemicals, P:328 Rubber (Development of synthetic rubber), R:431; (General ose synthetic rubbers) R:436 Butane and propane (natural gases), B:676 Gas (Gas in the home), G:49 Butane Butane and propane, B:676 Gas (Gas in the home), G:49 Isomer, 1:426 Molecule (Individual molecules), M:534 with diagram Natural gas liquids, N:46 Butcher Meat processing, M:299 Butcherbird, B:676 with picture

Bird picture on, B:332

Bute, Earl of [British statesman], B:676 Buteo Hawk, H:83 Buteshire (Scotland), B:677 Buthelezi, Mangosuthu Gatsha |South African politician), B:677 Inkatha Freedom Party, I:235 **Butler of Saffron Walden, Lord** See Butler, R. A. Butler, Benjamin Franklin (American generall, B:677 Butler, Josephine British social reformer), **B:677** Butler, Nicholas Murray (American educator Addams, Jane, A:33 Nobel Prizes (Peace), N:233 Butier, R. A. (British politician), B:677 Butler, Reg (British sculptor), B:677 Butier, Samuel English authorl, B:677 Butler, Samuel (English poet), B:677 Butler, Samuel (English schoolmaster) Shrewsbury School, S:400 Butley play by Grayl Gray, Simon, G:310 Butlin, Sir Billy (British holiday-camp pioneerl, B:677 Butor, Michel [French author] French literature (French drama of the mid-1900's), F:450 Novel (After World War II), N:314 Butt, Isaac [Irish politician], B:678 Butte Igeologyl, B:678 with picture Butter, B:678 Buttermilk, B:691 Cattle (Dairy cattle), C:273 Churn, C:510 Dairying, D:6 Margarine, M:203 **Butter-margarine blended products** Butter (History), B:679 **Butter oil** Butter, **B:678** Buttercup, B:679 with picture **Butterfat** Butter, B:678 Butterfield 8 lbook by O'Haral O'Hara, John, 0:417 Butterfield, William [British architect] Architecture (The Gothic Revival), A:532 with picture Butterfish, B:679 Butterfly, B:680 with pictures See also list of Related Articles Animal (Adaptations for sensing the environment), A:401; (Batesian mimicry) A:404; (Animal travellers) A:410 Caterpillar, C:258 with picture Chrysalis, C:498 with picture Flower (Pollination by butterfiles and moths), F:263 with picture Fritillary, F:463 with picture Insect (Legs), 1:249 Metamorphosis, M:377

Butterfly [swimming]

5o:486

Swimming, So:485 with diagram on

Butterfly lily	Byelorussia, See Belarus
Mariposa lily, M:211	Bylaw, B:694
Butterflyflsh, B:691 with picture	Byng, John [British admiral], B:694
Buttermilk, B:691	Byng, Julian Hedworth George
Butter (Continuous churning), B:678	dian statesmanl, B:694
Butternut, B:692	Governor General, G:278
Butterprint [plant]	Bypass
Velvetleaf, V:326 with picture	Road, R:296
Butterwort, B:692 with picture	Byrd, Richard Evelyn (American a
Leaf picture on, L:132	and explorerl, B:694
Buttocks (anatomy)	Aeroplane (Fliers of the golden a
Back, B:17	A:81
Button battery	Antarctica, A:437, A:443 with pic
Battery (History), B:156	A3444
Button, B:692	Exploration (table), E:427; (Polar e
Clothing (The Middle Ages), Cl:101	ration) E:427
Sewing (Fastenings), S:287	North Pole, N:261
Buttress	Byrd, William [American political
Tropical rainforest (Plant life), T:415	[eader], B:694
Buttress [architecture]	Byrd, William (English composer),
Architecture (Architectural terms),	B:695
A:514	Byrd, William, II (American author
Gothic art (Early Gothic architecture),	B:694
Buttress dam	American literature (Histories), A:
Dam (Kinds of dams), D:12	Diary, D:157
Buttrose, Ita [Australian newspaper edi-	Byrne, Joe [Australian bushranger],
tor], B:693	Browner Spread County (American
Butyl rubber	Byrnes, James Francis (American
Rubber, R:437	statesman], B:695
Buvelot, Louis (Swiss-born Australian	Byron, Augusta Leigh Isister of By Byron, Lord (Byron's life), B:695
painter], B:693	Byron, Lord (English poet), B:695 v
Australia, Art and architecture of (Im-	portrait
pressionist painters), A:782 pic-	Rhône River, R:258
ture on A:783	Byssinosis
Buxar, Battle of, B:693	Brown lung, B:592
Bihar (History), B:289	Byte
Buxtehude, Dietrich (German com-	Computer (table), Ch257
poser), B:693	Byte
Bach, Johann Sebastian (The First Pe-	Electronics (How electronic circul
riod), B:17	process information), E:190
Buxton, Sir Fowell (British social re-	Byway
former), B:693	Road (History of roads), R:298
Buzkashi [game]	Byzantine architecture
Afghanistan (Recreation), A:113 with	Architecture, A:523 with pictures
picture	Byzantine art (Architecture), B:696
Buzz bomb	picture
Guided missile (History), G:410	Italy (Architecture), 1:456
Buzzard, B:693 with picture	World, History of the (The Byzanti
Bird picture on, B:317	Empire), W:344 with picture
Honey buzzard, H:265 with picture	Byzantine art, B:696 with pictures
Buzzard hawk	See also list of Related Articles
Hawk, H:83	Cimabue, Giovanni, Ch3 with picto
Buzzard kite	Byzantine cross
Kite, K:291 with picture	Byzantine art picture on, B:698
By-election	Byzantine Empire, B:699 with picto
Election (How elections take place),	and maps
House of Commons, H:327	See also list of Related Articles
Parliament (How members are	Bosnia-Herzegovina (History), B:47
elected), P:190	Bulgaria (The first Bulgarian Kingd
United Kingdom, Government of the	B:637
(Elections), U:112	Constantine the Great, Ci:307 Dark Ages, D-35
, account on the last	LIGHT MORS 12:35

By Love Possessed [book by Cozzens]

Cozzens, James Gould, Ci:412

Oates, Joyce Carol, 0:376

Doll (The early 1900's), D:247

Bye-Lo Baby

By the North Gate [book by Oates]

orth George |Cana-B:694 G:278 n [American aviator 694 f the golden age), Byzantine art picture on, B:698 A:443 with picture Byzantium E:427; (Polar explodcan political sh composer!, nerican author), (Histories), A:310 n bushrangerl, cis (American gh (sister of Byron) s life), **B:695** poet], B:695 with Kaaba, K:178 1:257 ectronic circuits ation), E:190 ids), **R:298** ULT (P with pictures tecture), B:696 with :456 e (The Byzantine with picture with pictures ted Articles Ch3 with picture e on, B:698 :699 with pictures ed Articles (History), B:475 ulgarian Kingdom), at, Ci:307 Dark Ages, D:35 Egypt (Muslim rule), E:115 Parliament, P:190 Europe (The Byzantine Empire), E:387 Greece, Ancient (Roman rule), G:354 Greece (Ottoman Turkish rule), G:341 Istanbul, 1:441 with picture Law (The Middle Ages), L:114

Macedonia [historical region], M:8 Theodoric, T:213 Tunisia (History), T:443 Turkey (History), T:462 World, History of the (The Byzantine Empire), W:344 Byzantine painting

Byzantine art, B:696 Painting, P:52 with picture Byzantine silk textile

Byzantines Algeria (History), A:265

Byzantine Empire (Beginnings), B:701 Constantine the Great, Cl:307 Istanbul, 1:441

C [letter], C:1 C [symbol], C:1 Carbon, C:188 C clef (music) Music (Pitch), M:732 with picture Ca [symbol] Calcium, C:23 Caaba

Cab Pedicab. P:241 Taxi, T:71 Cabal [conspiracy], C:2 Cabinet (History), C:4

Cabala Kabbalah, K:178 Cabaret Berlin (Arts), B:249

Cabbage, C:2 with pictures Cabbage palm, C:3 Cabbage Patch Doll Doli (Since the 1950's), D:248

Cabbage white Butterfly picture on, B:683 Cabbages and Kings [book by Henry]

Henry, O., H:154 Cabell, James Branch | American au-

thorl. C:3

Scotland (Recreation), S:161 Cabeza de Vaca, Álvar Núñez Span-

ish explorer!, C:3 Cabin tent

Tent (Kinds of tents) picture on, T:152 Cabinda [Angola], C:3 Cabinet. C:3

Canada, Government of (The federal Cabinet), C:93 England (Government), E:262

President (Limited presidency), P:764 Prime minister, P:778 Cabinet dolls' house

Dolls' house, D:249 Cabinet-Maker and Uphoisterer's

Drawing Book, The book by Sheraton

Sheraton, Thomas, S:354

Cabinet-Maker and Upholsterer's Guide, The (book by Hepplewhite) Hepplewhite, George, H:157

Cabinet system

Election, E:138

Cabinetmaker See also Carpentry

Woodworking, W:306 Cable [communications], C:4 with pictures

See also list of Related Articles

Cable (construction)

Bridge (Suspension bridges), B:561 with pictures; (Cable ed bridges) B:564 with picture

Rope (Wire rope), R:395

Cable [electricity]

Cable (Types of cable), C:5 Insulation picture on, I:271

Cable [nautical measurement], C:7

Cable car, C:7 Cable-laid rope

Rope (How rope is made), R:395

Cable loss (communications) Cable (Coaxial cables), C:5

Cable-stayed bridge

Bridge (Cable-stayed bridges), B:564 with picture

Cable television

Cable (Recent developments), C:7 Television, T:120

Cable-tool drilling

Gas (Producing gas), G:51 Petroleum (Methods of drilling), P:343

Cable, George Washington [American writer], C:7

Cablegram

Telegraph (Kinds of telegrams), T:101 Cabochon

Gem (Cutting and polishing), G:71 with pictures

Lapidary, L:61 Peridot, P:282

Cabocios

Brazil (Ancestry), B:532

Cabot, John Italian explorerl, C:7 Canada, History of (Early European exploration), C:97

Exploration (Exploring the New World), E:421 with map; (table)

Cabot, Sebastian (Italian explorer), C:8 Exploration (table), E:421; (Exploring the New World) E:421

Río de la Plata, R:284

Cabral, Pedro Álvares [Portuguese navigatori, C:8

Brazil (Portuguese rule), B:543 Dias, Bartolomeu, D:157

Exploration (Exploring the New World), E:421; (table) E:421

Latin America (European discovery and exploration), L:88

Portugal (The age of exploration), P:705

Cabrillo, Juan Rodríguez lPortuguese

explorerl, C:8

California (History), C:39

Cabrini, Saint Frances Xavier [American social worker), C:8 with portrait

Cacao, C:8 with picture

Chocolate, C:476 with pictures Ecuador (People), E:68

Ghana, G:146

Cacomistle

Ringtail, R:280

Cactoblastis cactorum [moth]

Prickly pear, P:776

Cactus, C:9 with pictures See also list of Related Articles

Leaf (Specialized leaves), L:131

Cadbury, Dame Elizabeth Mary [British social workerl

Cadbury, C:11

Cadbury, George [social reformer] Cadbury, C:11 with portrait

Cadbury, John [social reformer] Cadbury, C:11

Cadbury, Richard [social reformer] Cadbury, C:11

Caddisfly (insect) Insect (table), I:262

Cade, lack [English rebel leader], C:11

Cadence, C:11

Music (Harmony), M:730

Heraldry (Elements of a coat of arms), H:160

Cadenza

Concerto, Ch272

Cadillac, Antoine de la Mothe [French colonist], C:11

Cádiz (Spain), C:11

Phoenicla (Language), P:428 Spanish Armada (The two fleets), So:190

Cadman, John [pardoned ex-convict] Cadman's Cottage, C:11

Cadman's Cottage (Australia), C:11

Cadmium [eiement], C:12 Environmental pollution (Business and

industry), E:306 Nickei (Industrial uses), N:200

Cadmus [Greek mythology], C:12

Europa, E:355

Mythology (Lévi-Strauss's theory), M:765

Caduceus

Mercury (Mythology), M:364

Cady, Raymond D. [American chemist] Match (The invention of book matches), M:254

Caecilian

Amphibian, A:340

Caedmon (British poet), C:12

Caerleon [Wales], C:12

Gwent (Places to visit), G:437

Caernarfon

Gwynedd (Places to visit), G:439 Wales (The English conquest of Wales), W:17

Caernarfon Castle

Gwynedd (History), G:439 Caernarvonshire [Wales], C:12

Caerphilly

Rhymney Valley, R:259

Caerphilly Castle [Wales]

Glamorgan (Places to visit), G:180

Caesar [title], C:12

Caesar, John [Australian bushranger], C:12

Caesar, Julius [Roman general], C:12

See also list of Related Articles Calendar (The Julian calendar), C:36

Chartres, C:355 Cicero, Marcus Tullius (His life), Cl:2

England (The Roman conquest), E:273 Julian calendar, J:161

July, J:162

Kent (History), K:221

Latin literature (The age of Cicero),

Library (Rome), L:230 Pompey the Great, P:666 Quirinal Hill, Q:30

Rhine River (The Rhine in history), P:252

Rome, Ancient (Breakdown of the republic), R:380; (Learning about ancient Rome) R:382

Rubicon, R:441

Triumvirate, T:411

Caesarean section

Childbirth (The birth process), C:412 Reproduction, Human (The stages of labour), R:230

Siamese twins, S:405

Surgery (Obstetrics and gynaecology), Sp:439

Caesium (element), C:14

Nuclear energy (Wastes and waste disposal), N:327

Cafe -au-lait spoté-au-lait spot idisorderl

Neurofibromatosis, N:102

Cafeteria

Restaurant, R:241

Caffeine, C:14

Alkaloid, A:270

Coffee (Kinds of coffee), Ch:153

Maté, M:254

See also Tea Caftan (clothing)

Morocco (Way of life), M:612

Cagayan de Oro (Philippines), C:14

Cage, John [American composer], C:14

Aleatory music, A:241

Classical music (The 1900's), Cl:62 Cunningham, Merce, Ci:499

Cagliari, Paolo

Veronese, Paolo, V:348

Cagliostro, Count Allesandro di Iltaiian magician)

Magic (From the 1500's to the 1700's), M:46

Cagney, James [American film actor], C:15 with portrait

Film industry (Best performance by an actor), F:96

Cahow, C:15 with picture

Cai Lun [Chinese government official] Invention (China), 1:315

Caicos Islands

Turks and Calcos Islands, T:469

Drama (Secular drama), D:293 Cain [Biblical figure], C:15 mones), H:278 Spanish literature (The 1600's), So:194 Cain [poetry by Byron] Thyroid gland, T:235 Calderone, Mary Steichen [American Byron, Lord, B:696 Calcium [element], C:23 doctori, C:33 Caine Mutiny Court-Martial, The play Element, Chemical (Names and symby Woukl Caldwell, Erskine [American author], bols of elements), E:196 Wouk, Herman, W:412 Flame test, F:218 C:33 Caine Mutiny, The [book by Wouk] Milk (Minerals), M:466 Caledonia (Scottish history), C:33 Caledonian Canal [Scotland], C:33 with Wouk, Herman, W:412 Nutrition (Minerals), N:364 Calne, Sir Hall [British author], C:15 Osteoporosis, 0:514 picture Cairenes [people] Rickets, R:271 Calendar, C:33 with pictures See also list of Related Articles Cairo (People), C:17 Calcium carbide, C:23 Cairn Acetylene, A:23 April Fool's Day, A:482 Scotland, History of, S:167 Calcium carbonate, C:23 Aztec (Religion), A:898; picture on Cairn terrier, C:15 Calcite, C:23 A-901 Dog picture on, D:233 Chalk, C:337 Christian era, C:483 Cairngorm Mountains (Scotland), C:15 Dolomite, D:250 Egypt, Ancient (Sciences), E:127 Grampian Region, G:290 Limestone, L:282 Indian, American (Writing), I:149 Cairns (city, Queensland), C:15 Rock (Chemical sediments), R:308 Julian calendar, 1:161 Cairo (Egypt), C:16 with pictures Salt, Chemical, S:58 Sun (Telling time and directions), Egypt, E:100 Calcium-channel blocker [drug], C:23 So:412 Fatimid dynasty, F:36 Calcium cyanamide Calendar reform Calsson (building), C:20 with picture Calcium carbide, C:23 Calendar, C:37 Air lock, A:201 with diagram Calcium nitrate Calendar stone Building construction (Constructing a Saltpetre, S:58 Aztec (Arts and crafts), A:900; picture skyscraper), B:628 Calcium oxide on A:901 Calsson [munitions] Glass (Soda-lime glass), G:191 Calendar vear Artillery (Field artillery), A:614 Lime, L:279 Year, Y:442 Caisson disease Oxide, 0:536 Calendering Bends, B:235 Calculation Paper (Sheet formation; picture: How Caithness [Scotland], C:21 with picture Fraction (Calculations using fractions), paper is made), P:135 Caleta (food) Plastics, P:582; picture (How plastics Goat (Products), G:221 Calculator, C:24 with pictures products are made) P:581 Cajuns (people), C:21 Abacus, A:3 with picture Rubber (Shaping), R:435 Acadia, A:18 Adding machine, A:34 Textile (Finishing the fabric), T:174 Louisiana, L:401 Computer (Early calculating devices), Calendering machine (preliminary op-Cakes and Ale [book by Maugham] Ci:264 erationsl Maugham, W. Somerset, M:266 Calculus Identistry Tyre (How tyres are made), T:489 Cakewalk Teeth (Dental checkups), T:93 (Perio-Calendula, C:37 with picture Dancing picture on, D:27 dontal diseases) T:96 Cakobau [Fiji chief] Calculus [mathematics], C:24 with dia-Cattle (Breeding and care of cattle), Fiji (History), F:78 grams C:276 Calabash (gourd), C:21 with picture Archimedes (His discoveries), A:511 Dolphin (The life of dolphins), D:253 Calabash (tree) Mathematics (Branches of mathemat-Elephant (Reproduction), E:207 with Calabash, C:22 ics), M:256 (Mathematics and the pictures Caladium, C:22 with picture scientific revolution) M:260 Reindeer, R:190 Calais (France), C:22 Newton, Sir Isaac, N:187 Whale (Reproduction), W:209 Hundred Years' War, H:372 Physics (Newton), P:475 Calf [anatomy] Calamity Jane (American frontiers-Science (Mathematics and logic), S:139 Leg, L:153 womanl, C:22 with portrait Calcutta [India], C:28 with pictures Calf roping Calamus [feather] West Bengal, W:158 (Places to visit) Rodeo, R:329 Feather (Kinds and parts of feathers), W(16) Calfa, Marián (Czech political leader) Ft41 Calcycophyllum candidissum Czechoslovakia (The Velvet Revolu-Calamus itreel Lancewood, L:43 tion), Cl:526 Rattan, R:144 Caldecott Medal (American award), Calgary [Canada], C:38 "Calamus" [poems by Whitman] C:32 Calhoun, John C. [American political Whitman, Walt (His work), W:239 Caldecott, Randolph [British artist]. leader) Calcei C:32 with portrait Webster, Daniel (The U.S. senator), Toga, T:274 Caldecott, Randolph [illustrator] W:128 Calceolaria, C:23 Literature for children, L:324 Callbre Calcite [mineral], C:23 Calder, Alexander [American sculptor], Ammunition picture on, A:334; (The Dolomite, D:250 C:32 with picture bullet) A:335 Mineral picture on, M:486 Mobile, M:523 with picture Artillery (Parts of a gun), A:613 Polarized light (Polarizing materials), Sculpture (Movement), S:191; picture Bullet, B:639 P:637 on S:192 Gun, G:428 Rock (Chemical sediments), R:308 Caldera Rifle (Kinds of rifles), R:274 Sand, \$:69 Crater, Ci:418 Calico bass Stalactite, So:265 with picture Calderdale (England), C:32 Bass (Freshwater bass), B:141 Calcitonin Calderón de la Barca, Pedro ISpanish Calico, C:38 Hormone (Blood composition hor-

dramatist), C:33

California (United States), C:38 with pic-

tures and map Los Angeles, L:387 San Andreas Fault, S:65 with picture and map San Diego, S:64 San Francisco, S:64 Westward movement (The Southwest), W:198 with picture and maps Wine (Wines from the United States), California (sculpture by Powers)

Powers, Hiram, P:733

California condor Animal (Breeding in captivity), A:413

Condor, Cl:274 with picture Endangered species (table), E:243 with picture

Vulture (New World vultures), V:430 Wildlife conservation (Endangered species), W:251 **California Current**

Pacific Ocean (Currents and tides),

California Electric Light Company Electric power (Early developments),

California flying fish Fish picture on, F:160

"California Here I Come" [Song by Jolsonl

Jolson, Al, J:138 California indians

> Indian, American (Indians of California), 1:157 with picture

California poppy Poppy, P:682 California rattali Fish picture on, F:164

California red fir Fir, F:124 with picture

California redwood

Redwood, R:177

Sequola (The redwood), \$:264 with **Dictures**

Californium [element], C:40 Caligula [Roman emperor], C:40 Agrippina the Younger, A:177 Caliguia [work by Camus]

Camus, Albert, C:69 Caliph (title)

Arabs (The rise and spread of Islam), A:492

Baghdad (History), B:26 Egypt (Muslim rule), E:115 Muslims (The first caliphs), M:743 Religion (Islam), R:205 Shiites, S:359 World, History of the (The Islamic

World), W:344

Call

Bird (Calls and songs), B:343 Call it Experience [book by Caldwell] Caldwell, Erskine, C:33

Call Me Ishmael [poetry by Olson] Olson, Charles, O:431 Calla, C:40

Callable bond

Bond (Kinds of bonds), B:444 Callaghan, Jim British political leaderl, C:40 with portrait

Labour Party (History), L:4

United Kingdom, History of the (The United Kingdom today), U:153

Callampas

Chile (City life), C:416 with picture

Callao [Peru], C:41

Callas, Maria [Greek singer], C:41 with portrait

Callejas, Rafael Leonardo Honduran political leader) Honduras (Recent developments),

H:263 Calley, Lieutenant William L. Jr.

War crime (The Vietnam War), W:35 Calligraphy, C:41 with picture

China (Painting), C:446 with picture Handwriting (The use of handwriting), H:50

Illustration, 1:33 Islamic art. I:419

lapan (Recreation), J:43 picture on J:44 Painting (Chinese painting), P:49; (islamic painting) P:50

Pen (Speciality pens), P:251 with pic-

Tobey, Mark, T:272 Wang Wei, W:31

Calllope [Greek mythology] Muses, M:717

Calliope imusical instrumenti, C:42 with picture

Calliper (instrument), C:42

Tool (Metalworking tools), T:297 Callisthenics, C:42

Callisto [astronomy] Boötes, B:463

Jupiter (Satellites and ring), J:172

Ursa Major and Ursa Minor (Ursa Minor), U:278

Callistus III [pope]

Borgia, B:468

Callot, Jacques (French printmaker), C:42

Callus (disorder), C:43

Bone (Broken bones), B:446 with diagram

Keratin, K:236

Calm [weather]

Wind (table), W:269

Calm, No. 357 [painting by Kandinsky] Kandinsky, Wassily picture on, K:184

Calmette, Albert [French researcher] BCG, B:164

Caims of Cancer

Calms, Regions of, C:43 Calms of Capricorn

Calms, Regions of, C:43

Calms, Regions of Igeographyl, C:43 with map

Caloocan, C:43 Caloric theory of heat

Heat, H:121

Physics (Developments in the study of heat and energy), P:476 Calorie, C:44

British thermal unit, B:581

Diet. D:170 Food supply (Basic human food needs), F:310

Heat (Temperature and heat), H:117 Nutrition (Kinds of nutrients), N:363; (Protein gy malnutrition) N:367 Weight control (Energy equivalents of

food calories) (table), W:134 Calorimeter [instrument]

Calorie, C:44

Calotype

Communication (In the early 1800's), CI:231

Photography (Early developments), P:461

Talbotype, T:15

Calumet

Peace pipe, P:226

Calvary [New Testament], C:44 Jesus Christ (The Crucifixion), J:100 with picture

Calvert, Benedict Leonard Baltimore, Lord, B:69

Calvert, Cecilius (English colonial officiall

Baltimore, Lord, B:69 Calvert, Charles (1699-1751)

Baltimore, Lord, B:69

Calvert, Charles (1637-1715) [English noblemanl

Baltimore, Lord, B:69

Calvert, Frederick Baltimore, Lord, B:69

Calvert, George [English political leader)

Baltimore, Lord, B:69

Calvin, John (French-Swiss religious leader]. C:44 with portrait Christianity (The Reformation), C:485 Foreordination, F:343

Geneva, G:82

Predestination, P:741 Presbyterians (Teaching and worship),

Protestantism (The conservative re-

form movements), P:816 Puritans (Puritan beliefs), P:866 Reformation (John Calvin), R:182 Switzerland (Religious civil wars), 50:501

Calvin, Melvin, C:45 Calvinism

See also list of Related Articles Calvin, John (Calvinism), C:44 Weber, Max, W:127

Calwell, Arthur (Australian political leaderl, C:45

Calypso, C:45 with picture Latin America (Music), L:85

Trinidad and Tobago (Culture), T:405 West Indies (Arts), W:167

Calyx

Flower, F:261 with diagram Plant (Flowers), P:555 with picture

Cam

Petrol engine (Camshaft), P:333

Cam River

Cambridgeshire (The land), C:50

Camões, Luiz de

Portugal (Arts), P:702 Spanish literature (The 1500's), So:194

140 Cambiale de matrimonio, La Cambiale de matrimonio, La lopera by Rossinil Rossini, Gloacchino Antonio, R:404 Cambium Bark (Inner bark), B:110 Grafting, G:282 Plant (Germination), P:560 Root (Secondary tissues), R:393 with pictures Rubber (The rubber tree), R:432 Stem (Herbaceous stems), So:315 Tree (Trunk and branches), T:377 with diagram Cambodia, C:45 with pictures and map Angkor, A:367 with picture Architecture (Indian architecture). A:519 Asia (Education), A:637 Flag picture on, F:204 France (The Fourth Republic), F:416 Geneva Accords, G:82 Indochina (The Khmer), 1:181 Norodom Sihanouk, N:245 Phnom Penh, P:427 Royal families, R:420 Thailand (Thailand today), T:185 Vietnam War (Early stages of the war). V:383; (U.S. troop withdrawal begins) V:384; (Results of the war) V:384 Cambria [Wales], C:48 Cambrian Period Australia (Palaeozoic Era), A:767 Earth (The Palaeozoic Era), E:27; table Prehistoric animal (Early forms of animai life), P:744 with diagram Cambric [fabric], C:48 Cambridge (England), C:48 Cambridgeshire (Places to visit), C:50 Cambridge Modern History book by Acton Acton, Lord, A:27 Cambridge Science Park Cambridgeshire picture on, C:50 Cambridge University (England), C:48 with picture England (The beginnings of Parliament), E:276 United Kingdom, Educational systems of the (Universities), U:98 Cambridgeshire [England], C:49 See also list of Related Articles Arms picture on, A:585 Camcorder Photography (Making home movies), P:458 with picture Video camera, V:368 with picture Camden (Australia), C:51 Camden [England], C:51

Camden, Battle of

C:51

Camelot

American Revolution, A:328

Camel, C:51 with pictures

Sahara (History), S:20

Camellia, C:54 with picture

Camden, William [English historian]. See also list of Related Articles Camp See Camping Camp Cove [Australia], C:62 Phillip, Arthur (To Port Jackson), P:416

Arthur, King, A:609 Camelot [musical by Lerner] Lerner, Alan Jay, L:184 Camel's-hair cloth (fabric), C:54 Camel (People and camels), C:51 Carneo Igemi, C:54 with picture Camera, C:55 with pictures See also list of Related Articles Film industry (Shooting the film), F:67; (The camera) F:91 with picture Instrument, Scientific, 1:267 Journalism (Television), 1:150 Land, Edwin Herbert, L:43 Photography, P:440; (Photographic equipment) P:449 with diagram and pictures Camera lucida, C:58 with pictures Camera obscura, C:58 with picture Photography (Early developments), Camerata Opera (The development of opera), 0:463 Cameron plaid Tartan picture on, T:48 Cameron, Julia Margaret British photographer), C:59 Photography (Artistic advances), P:462 Cameroon, C:59 with picture and map Aviation (Aircraft nationality marks), A:001 British Cameroons, B:579 Douala, D:271 Flag picture on, F:200 Medicine picture on, M:311 Nigeria (Independence), N:213 Sculpture (African sculpture), S:202 with picture Yaoundé, Y:440 Camille [film] Cukor, George, Ci:488 Camilleri, Charles, C:61 Camisilla (clothing) Panama (Clothing), P:117 with picture Camm, Sir Sydney (British aircraft engineer), C:61 Cammarano, Salvatore Italian libret-Opera (Lucia di Lammermoor), 0:470; (Il Trovatore) 0:474 Camogie Gaelic games, G:6 Ireland (Recreation), 1:355 Northern Ireland (Recreation), N:272 Camomile, C:61 with picture Camorra [secret society], C:61 Mafia, M:39 Camouflage Animal, A:401 with pictures Bird (Protection against enemies), B:344 with pictures Octopus, 0:409 Plant picture on, P:569 Protective coloration, P:812 Camouflage (warfare), C:61 with picture

Egypt (Renewed warfare and peace), E:120 with pictures Israel, 1:440 Middle East (Attempt at peace), M:456 Camp David [United States], C:62 Camp, Walter [American football coachl, C:62 Campaign Advertising (Creating advertisements). A:63 Election (Election campaigns), E:139 Glass (Melting), G:192 "Campaign, The" [poem by Addison] Addison, Joseph, A:35 Campanile, C:62 with picture Bell (Uses of bells), B:227 Tower, T:314 Venice (The city), V:335 with picture Campanula, C:62 with picture Campbell, Kim [Canadian politician], Campbell plaid Tartan picture on, T:48 Campbell, Davis [Australian writer] Australia, Literature of (Modern poetryl, A:832 Campbell, Colen (Scottish architect) Architecture (The Palladian Revival), Campbell, David [Australian poet], C:63 Campbell, Donald (British speedboat racer), C:63 Campbell, John Douglas Sutherland Lorne, Marquess of, L:386 Campbell, Mrs Patrick British actress, C363 Campbell, Robert (Australian merchantl. C:63 Campbell, Robert | British fur trader Yukon (History), Y:478 Campbell-Bannerman, Sir Henry (British political leaderl, C:63 Campbelltown [Australia], C:63 Campeche [Mexico], C:63 Camper Recreational vehicle, R:170 Camper trailer Recreational vehicle, R:170 Campesinos [people] Bolivia (Way of life), B:426 Colombia (Population), Ci:169 Latin America (Rural life), L:80 Campfire Camping, C:67 with pictures Camphor [chemical], C:63 Plastics (The invention of Celluloid), P:582 Camphor tree Camphor, C:63 with picture Camphorated parachlorophenol Camphor, C:63 Campin, Robert [Beiglan painter], C:64 with picture Camping, C:64 with pictures See also list of Related Articles Campion, C:69 Campion, Edmund (English Jesuit mar-

tyr), C:69 with portrait

Camp David Accords

Campion, Thomas English composerl, Canary, Martha Jane | American fron-Space exploration, So:161 Textile industry, T:175 tierswomani Calamity Jane, C:22 with portrait Thanksgiving Day, T:187 Campodeld linsect Canasta [game], C:113 Theatre, T:202 Insect (table), 1:261 Campoformio, Treaty of [1797] Canberra [Australia], C:113 with pictures War of 1812, W:35 Napoleon I (Victories in Italy), N:20 Canada, Government of, C:92 with Australian Capital Territory (ACT), **pictures** Campsite See also list of Related Articles A:844 Camping, C:67 Yukon (Government), Y:478 Canberra Deep Space Communica-Camptosaurus Dinosaur pictures on, D:175, D:179 Canada, History of, C:97 with pictures tion Complex [Australia] Canberra (Places to visit), C:116 Campus Martius and maps Canberra Planning Exhibition Rome (Other remains), R:368 See also list of Related Articles Canberra (Places to visit), C:116 Canada goose, C:108 Camshaft Canby, William J. [American public fig-Petrol engine (Parts of a reciprocating Bird picture on, B:320 urel Brent goose, B:553 petrol engine), P:333 Ross, Betsy, R:403 Goose (Kinds of geese), G:254 with Camulodunum picture Cancellation Colchester, Ci:158 Stamp collecting, So:271 Canada hemp Essex (History), E:333 Cancellation [mathematics], C:117 Dogbane, D:241 Camus, Albert [French writer], C:69 Fraction (Calculations using fractions), Canadian hemlock Existentialism, E:415 F:387 Hemlock (tree), H:149 French literature (Existentialism), F:450 Cancellation [physics] Canadian Pacific Railway Interference, I:280 Canada, History of (Progress under Buoy, B:647 with picture Laurier), C:102 with picture Cancellous bone Canaan (ancient region) Bone (Structure of the bones), B:446 Canadian pondweed [plant] Abraham, A:15 Cancer, C:118 Elodea, E:219 Jews (Beginnings), J:112; (The Exodus) See also list of Related Articles **Canadian Rockies** J:113 AIDS (Opportunistic Illnesses), A:179 Canada (The Rocky Mountains), C:81 Joshua, [:148 Asbestos (Hazards of asbestos), A:618 North America picture on, N:246 Moses (Journey to Canaan), M:632 Brain (Tumours), B:517 Rocky Mountains, R:326 with maps Canaan dog, C:69 Breast, B:550 and picture; (Chief ranges of the Canaanites lancient people], C:69 Cell. C:302 Rockies) R:327 Baal, B:2 DES, D:129 Canadian Shield, C:108 Deborah, D:62 Disease (Noninfectious diseases), Palestine (Early history and Hebrew Canada, C:83 D:193 North America, N:252 settlement), P:102 Eve (Diseases of the uveal tract), E:442; Canal, C:108 with pictures Phoenicia (Way of life), P:428 (Diseases of the retina) D:442 See also list of Related Articles Canada balsam Laetrile, L:12 Beaver, B:179 with picture Balsam, B:67 Leukaemia, L:195 Fulton, Robert (The inventor), F:482 Balsam fir, B:68 with picture Nutrition, N:367 Irrigation (Bringing Irrigation water to Canada, C:70 with pictures and maps Teeth (Diseases and defects of the See also list of Related Articles farms), 1:406 teeth), T:93; (Oral cancer) T:97 Poland, P:630 Agriculture, A:170 X rays (In medicine), X:429 Saint Lawrence Seaway, S:37 Aviation (Aircraft nationality marks), Cancer [astrology] Soo Canals, So:42 A:881 Zodiac (table), Z:501 Transportation (Development of inland Bird (Endangered species), B:357 Cancer [constellation], C:124 transport), T:353 Canal, C:111 Cancer cell United States, History of the (Expan-Conservation (North America), Cl:301 Irradiation, 1:405 sion and the economy), U:247 Dollar, D:249 Candela junit of measurel, C:124 Welland Ship Canal, W:145 with map Electric power (table), E:161 Candelilla wax Wiltshire (Transport and communica-Flag picture on, F:202 Wax (Vegetable wax), W:106 Girl Guides and Girl Scouts, G:170 tions), W:265 Candida albicans Grand Banks, G:292 Canal [astronomy] Thrush [infection], T:231 Mars (Surface), M:221 Indian, American (The destruction of Candide [book by Voltaire] Canal du Midi [France] Indian America), 1:164; (Indians in French literature (The Age of Reason), Canal (History), C:109 the early and mid 's) 1:165; (Politi-F:440 cal gains) I:167 Canal lock Candidiasis Canal, C:108; diagram on C:110 Library, L:234 Fungal disease, F:485 Canaletto (Giovanni Antonio Canai) New France, N:112 Thrush [infection], T:231 (Italian painter), C:112 Nuclear energy, table on, N:328 Candle, C:124 with pictures Ottawa, 0:517 with pictures Canard system See also list of Related Articles Hydrofoil (Kinds of hydrofoils), H:401 Parliament (Parliaments in other coun-Easter (Easter symbols), E:43 Canary, C:112 with picture tries), P:192 Invention picture on, 1:312 Canary Island date palm Petroleum (The United States and Can-Lamp (Fat or oil lamps), L:36 with pic-Palm picture on, P:107 ada), P:338

Canary Islands, C:113 with picture and

See also list of Related Articles

Disaster (Accidents), D:188

Spain, So:177

Candle in the Wind, The book by

Candlefish, C:125 with picture

White]

White, T. H., W:232

Police, P:641 with picture

Red River Rebellion, R:173

(RCMP), R:416

Railway (North America), R:104

Royal Canadian Mounted Police

Candlemas Day [festival], C:125 Cannock Chase [England], C:128 Quarter days, Q:8 Parachute (Parts of a parachute), P:159 Staffordshire (Places to visit), So:261 Candlenut [tree], C:125 Cannon (weapon), C:128 with picture with picture Candlewood American Revolution picture on, Canopy |forest| Ocotillo, 0:406 Amazon rainforest, A:298 Candling Army (Armies in the Middle Ages). Animal (Animals of the tropical for-Chicken (Producing eggs), C:398 with A:592 ests). A:388 Artillery (How artillery is made), A:614 Forest (The structure of forests), F:345 Poultry (Marketing poultry and eggs), Cannon [zoology] Canova, Antonio (Italian sculptor), P:727 Horse (Legs and hoofs), H:292 with C:131 Candombié [religion] diagrams Cantaloupe Brazil (Religion), B:535 Cannon, Annie Jump [American astron-Melon (Types of melon), M:338 Candytuft, C:125 with picture omer), C:128 Cantata [music], C:131 Cane Cannon, Walter B. [American physiolo-Bach, Johann Sebastian, B:16 Grape (Growing grapes), G:298 gistl Classical music (Oratorios), Ci:57 Raspberry (Growing raspberries), Emotion (Early theories about emo-Cantell, Karl J. [Finnish virologist] R:140 tions), E:230 Interferon, 1:281 Cane harvester, C:125 Cannonball Express [railway train] **Canterbury Association** Cane sugar Jones, Casey, 1:138 Sugar cane, So:393 Cannon-ball tree, C:129 with picture N:169 Sugar (Making cane sugar), So:391 Cannon-Bard theory of emotions Canterbury bell, C:132 with diagram; (Sugar from sugar Emotion (Early theories about emo-Flower picture on, F:245 cane) So:392 tions), E:230 Canterbury (England), C:131 Cane toad, C:125 Cano, Juan Sebastián del England (The Germanic invasions), Toad (Kinds of toads), T:268 with pic-Exploration (Magellan's globe-circling E:274 ture expedition), E:422 Kent picture on, K:221 Cane book by Toomer Magelian, Ferdinand (The end of the Kent (Local government), K:219 American literature (The Harlem Renvoyage), M:44 Canterbury Cathedral (England) aissance), A:318 Canoe England picture on, E:268 Toomer, Jean, T:297 Birch (Paper birch), B:314 Kent (Places to visit), K:221 Canebrake, C:126 Boating (Other types of boats), B:414; Canterbury Pilgrims, The [work by Cango Caves (South Africal, C:126 (Early boats) B:415 Dyson. Canine (teeth) Canoeing (Canoes), C:129 with picture Dyson, Sir George, D:366 Animal (Teeth and Jaws), A:399 with Frontenac, Comte de picture on, F:469 **Canterbury Plains** picture Indian, American (Transportation), New Zealand (The South Island), N:158 Hippopotamus (The body of a river 1:140 pictures on 1:158; 1:160, 1:164 with picture and map hippopotamus), H:219 with pic-Indonesia picture on, 1:187 Canterbury Tales, The book by Kentl Canoe birch Kent, Rockwell, K:222 Teeth (Permanent teeth), T:90 with pic-Birch (Paper birch), B:314 Canterbury Tales, The (stories by tures Canoeing and Kayaking Chaucer), C:132 with picture Canine parvovirus [disease], C:126 Olympic Games table on, 0:438 Chaucer, Geoffrey (Life), C:358 with Canis Major [constellation] Canoeing, C:129 with pictures picture; (Poetry) C:358 Sirius, S:456 Canon (music), C:131

Canisius, Saint Peter (German religious

leaderl, C:126 Jesuits, J:95

Cankar, Ivan

Siovenia (People), 5:493 Canker, C:126

Cankerworm, C:126 with picture

Cankerworm moth

Moth picture on, M:642 Canna, C:127 with picture

Cannabis

Marijuana, M:206

Cannes (France), C:127 with picture Cannibal, C:127

Cannibalism

Bushrangers, B:671

Canning

Fishing industry, F:194 Food preservation, F:306 with picture

Canning Stock Route [Australia], C:128 Canning, George (British government

officiall, C:128 with portrait Castlereagh, Viscount, C:241 Peel, Sir Robert, P:242

Cannizzaro, Stanisiao iltalian chemisti. C:128

Counterpoint, Ci:392

Canon lofficel Address, Forms of, A:41

Canon [religion] Bible, B:270

New Testament (Books), N:135

Saint (Christian saints), S:28 Canon law

Law (The Middle Ages), L:114

Canon of Medicine (book by Avicenna) Avicenna, A:887 Medicine (The Middle Ages), M:314

Science (The Middle Ages), S:145 Canonic Variations on a chorale

"Von Himmel hoch" [music] Bach, Johann Sebastian (His works), B:16

Canonization [religion], C:131 Joan of Arc, Saint, 1:122

Saint (Christian saints), S:28; (Roman Catholic saints) S:28

Canopus

Star (table), So:284

Canopus in Argos: Archives (book by Lessing) Lessing, Doris, L:187

New Zealand, History of (Colonization),

England (The Hundred Years' War),

F376

Humanism (The arts), H:363 Short story, S:393

Canticles (Old Testament) Song of Solomon, So:41

Cantilever, C:132

Architecture (table), A:514 Bridge (Cantilever bridges), B:561 with diagram

Canton [political division], C:132 Switzerland (Government), So:492; (Cantonal and local government)

So:492 Cantonment

Housing (Housing since 1900), H:331 Cantor [title]

Judaism, J:155

Cantor, Georg (German mathematician Mathematics (In the 1800's), M:260 Set theory (History), M:277

Cantos [poetry by Pound] American literature (Modernist po-

etry), A:318 Pound, Ezra Loomis, P:728

Canute [Danish prince], C:132 England (The Anglo-Saxon period),

Lymphatic system, L:425 with diagram

American literature (Fiction and other

prose), A:320

Respiration (Organs of breathing),

R:239

Capillary reservoir

Pen (Soft-tip pen), P:251

Vein, V:324

E-274 Vikings (The Danish Vikings), V:392 Canvas [cloth], C:132 Needlepoint, N:67 Painting (Fabric supports), P:39 Tent (Kinds of tents), T:152 Canvasback, C:132 Canyon, C:133 with picture Ocean (The land at the bottom of the seal, 0:395 River (The channel of a river), R:289 Valley (Kinds of valleys), V:303 Canzoniere (poetry by Petrarch) Petrarch, P:327 Can-Haytien [Halti], C:133 Capability Brown See Brown, Capability Canacitance, C:133 Capacitor, C:133 Ceramics (Electrical equipment), C:326 Electricity (Controlling electricity), Electronics (Passive components), E:189 Ignition (Battery ignition), I:28 Insulator, Electric, 1:270 Integrated circuit, 1:275 Capacity Metric system (Volume and capacity measurements), M:386; (Metric conversion table) M:388 Weights and measures (table), W:138

Cape Adare (Antarctica)

Cape buffalo

Pacific Ocean (Boundaries and size),

Cape Agulhas (South Africal, C:134

Cape Barren goose (bird), C:134 with

Cape Igeographyl, C:134 with picture

Animal picture on, A:402

Cape Cod Ibook by Thoreaul

Afrikaans language, A:155

Cape Horn, C:136 with maps

Gardenia, G:33 with picture

South Africa, So:63 with map

Cape of Good Hope, C:136 with map

Exploration (Reaching the tip of Africa),

O'Hara, John, O:417

Cape Dutch [language]

Cape Frederick Henry

age), T:49

Cape Hatteras, C:136

See Cape Canaveral

Cape Mountains Region

Cape Province, C:137

Da Gama, Vasco, D:4

Dias, Bartolomeu, D:157

E:420 with map

Cape jasmine

Cape Kennedy

Cape Canaveral [U.S.A.], C:135

Cape Cod [U.S.A.], C:135 with map

Cape Cod Lighter, The book by O'-

Thoreau, Henry David (His life), T:225

Tasman, Abel Janszoon (The first voy-

Cape gooseberry, C:136 with picture

Cape Breton Island, C:135 with maps

Cape Town [South Africa], C:139 with pictures See also list of Related Articles ulation and ancestry) So:58 Western Cape, W:183 Cape Verde, C:141 with map Flag picture on, F:200 Guinea-Bissau (History), G:417 with map Cape weed (plant), C:142 Cape York Peninsula, C:142 Queensland, Q:20 Czech Republic (Arts), Ci:518 Science fiction (The 1900's), S:151 Capella [astronomy], C:142 Star (table), So:284 Caper (plant), C:142 Capet, Hugh See Hugh Capet Capet, Widow Marie Antoinette (Downfall of the monarchy), M:206 Capetian dynasty, C:142 France, F:412 with map Capildeo, Rudranath Trinidadian mathematician], C:143 Capillaries See Capillary

Lung (Gas exchange in the lungs),

L:415

Cape of Good Hope Royal Observa-

Cape Peninsula (region, South Africa)

Cape Province [South Africa], C:137

Observatory (table), 0:382

Cape of Good Hope, C:136

with pictures Capital account See also list of Related Articles Balance of payments, B:36 South Africa (Provincial government), Capital [architecture] Sculpture (The 1000's), \$:209 with picture Cape ruby Capital [economics], C:143 Ruby, R:441 Cape St. Vincent, Battle of See also list of Related Articles Nelson, Horatio (Wounded at Calvi), Economics (Making the economy grow), E:61; (Capitalism) E:61 Industrial Revolution (The role of capital), I:215 Industry, I:221 Capital gains tax, C:144 South Africa, So:55 with picture; (Pop-Taxation, T:69 Capital goods Economics (Making the economy grow), E:61; table on E:65 Industry (Capital), 1:221; (Other systems of classification) I:224 Portugal (Empire and wealth), P:705 Capital-intensive industry Industry (Capital), 1:221 Capital punishment, C:144 See also list of Related Articles Čapek, Karel (Czech playwright), C:142 Capital ship Warship (The age of sailing ships), W:46 Capitalism, C:144 City (Economy), Cl:32 Communism (The ideas of Marx), Ci:239 Economics, E:61; (The capitalist economy) E:62; table on E:65 Industry (Under different economic systems), 1:222 Trade (The geographical extent of trade), T:326 World, W:323 Capitalist Industrial Revolution, I:210; (The role of capital) I:215 Capitalist economy Capillarity, C:143 Economics (Capitalism), E:61 Heat pipe, H:122 Capitate bone Pen (Fountain pen), P:250 Hand (Parts of the hand), H:39 Surface tension, So:435 **Capitation tax** Water, W:82 Poll tax, P:654 Capillary, C:143 Capitol Hill Allergy (How an allergy develops), Washington, D.C., W:56 A:273 Blood (What blood does in the body), Capitoline Hill [Rome] Mythology (Roman divinities), M:759 B:394 with diagrams Rome (The city today), R:364 Brain (How the brain is protected), Capitoline triad A:512 Juno, **J:170** Circulatory system (The blood vessels), Jupiter, J:172 Ct:7 with picture Mythology (Roman divinities), M:759 Erythema, E:323 Capone, Al [American gangsteri, C:147 Heart (Discovery of circulation), with portrait Prohibition (Life during prohibition), Human body (The blood vessels), H:356 Capote, Truman [American author], Kidney (How the kidneys produce C:147 with portrait urine), K:244

Novel (The novel today), N:314 Caracas [Venezuelal, C:184 Carbide, C:186 Capra, Frank [American film director]. Venezuela (Population), V:328 with Charcoal, C:348 Chemistry (Development of organic C:147 with portrait pictures; (Education) V:330 with Capri [island], C:148 chemistry), C:371 Capriati, Jennifer [tennis player] Caracul Coal (Uses of coal), Cl:121 Diamond (What diamonds are), D:153 Olympic Games picture on, 0:440 Karakul, K:193 Element, Chemical (table), E:196 Capricorn [constellation], C:148 with Caradon llocal government district, Enpicture gland], C:185 Fire (What fire produces), F:127 Capricorn Concerto [music by Barber] Caradon, Lord Graphite, G:300 Life (The chemical basis of life), L:248 Barber, Samuel, B:106 See Foot, Sir Hugh Mackintosh Capricorn, Tropic of Caramanlis, Constantine [Greek politi-Carbon bisulphide See Tropic of Capricom cal leader], C:185 Bot fly, B:478 Capricornia [novel by Herbert] Greece (The 1950's), G:344; (The resto-See Carbon disulphide Australia, Literature of (Modern novration of democracy) G:345 Carbon black els), A:832 Сагараци Carbon (Forms of carbon), C:188 Caprine arthritic encephalitis (CAE) Colour (Mixing colorants), Cl:194 Crab, Cl:412 Goat (Disease), G:223 Turtle (Shell), T:472 Carbon dating Capsicum, C:148 with picture Water flea, W:85 Radiocarbon (Radiocarbon dating), Nightshade, N:217 Carat [measure], C:185 R:90 with diagrams Pepper, P:270 Diamond (Where diamonds are natu-Carbon dioxide, C:188 Capstan Blood (What blood does in the body), raily found), D:154 with pictures Tape recorder (How tape recorders Gem (Some famous gems), G:73 B:394 with diagram work), T:37 Gold (Properties of gold), G:230 Circulatory system (in respiration), Ch7 Capsule [anatomy] Caratacus iking of the Catuvellaunil, Climate (The changing climate), Ci:81 Elbow, E:136 C:185 Damp, D:18 Capsule [biology] Caravaggio, Michelangelo Merisi da Dry ice, D:327 Bacteria (The structure of bacteria). (Italian painter), C:185 Fire (What fire produces), F:127 B:20 with diagram Baroque (Baroque painting), B:116 Gas (The composition of natural gas), Capsule [botany] Painting (Annibale Carracci and Mi-G:35 Moss (How mosses live), M:637 chelangelo Caravaggio), P:62 with Greenhouse effect, G:360 Captain [title] picture Heart (Pumping blood to the lungs), Ship (Officers and crew), S:382 Caravan [travel], C:186 Captain Cook's Cottage [Australia], Caravan [vehicle], C:186 with picture Human body (The exchange of carbon C:148 Camping, C:65 dioxide and oxygen), H:356 with Captain Jack [Modoc Indian leader], Caravel |ship|, C:186 with picture diagram C:148 with portrait Columbus, Christopher (The basis of Laser (Gas lasers), L:73 Captains Courageous |book by Kipling! the plan), Cl:207 Leaf, L:126; (How a leaf makes food) Kipling, Rudyard (His works), K:286 Caraway (plant), C:186 L:130 Captive balloon Carbamate insecticide Lung (Gas exchange in the lungs), Balloon (Other uses), B:63; (Balloons in Insecticide, 1:264 L:415 war) B:64 Carbeen [tree] Molecule (Individual molecules), Capture theory [astronomy] Eucalypts picture on, E:348 M:534 with diagram Moon (Scientific theories), M:593 with Carbide [chemical], C:186 Oxide, 0:536 picture Carbine [weapon], C:187 Photosynthesis, P:467 Capuchin [animal], C:149 with picture Carbohydrate, C:187 Plant (Plants and the cycle of nature), Capuchins (religious group), C:149 See also list of Related Articles P:542 with diagram; (Photosynther Capybara (rodent), C:149 with picture Diet (Normal diet), D:169 sis) P:562 Rodent, R:329 Food supply (Basic human food Respiration, R:239 Car, C:150 with pictures needs), F:310 Space exploration (Breathing), So:137 Air conditioning (For comfort), A:190; Glucose, G:215 Carbon dioxide extinguisher (Air conditioners for vehicles) Glycogen, G:216 Fire extinguisher (Liquefied gas extin-Hormone (Metabolic hormone), H:278 guisher), F:134 with diagram See also Electric car; and list of Re-Hypoglycaemia, H:417 Carbon disulphide, C:189 **lated Articles** Life, L:248 Carbon filament [electricity] Technology picture on, T:84 Maize (Food for people), M:71 Edison, Thomas Alva (The electric Car, Model, C:178 with pictures Milk, M:466 light), E:81 Car ferry Nutrition, N:363 Carbon-in-pulp Ship (Other passenger vessels), \$:376 Carbolic acid Gold, G:233 Car industry Antiseptic (History), A:464 Carbon monoxide, C:189 Car, C:161 Coal tar, Ci:134 Air pollution (Chief sources of air pol-Car racing, C:179 with pictures Carboloy lution), A:201 with diagram and See also list of Related Articles Alloy (Other alloys), A:278 *Dicture* Le Mans, L:165 with picture Carbon 12 Coal (Mine safety), Ci:131 Carabao, C:183 with picture Archaeology (Absolute dating), A:503 Fire (What fire produces), F:127 Buffaio, B:622 Carbon 14 Oxide, 0:536 Water buffalo, W:84 Archaeology (Absolute dating), A:503 Safety (Other precautions), S:11 Caracal, C:184 with picture Radiocarbon, R:89 Smoking (Why smoking is dangerous) Lynx, L:427 Carbon (element), C:188 S:501 Caracara, C:184 with picture See also list of Related Articles

Carbon steel

Iron and steel, 1:387 Carbon tetrachloride, C:189 Carbon transmitter Telephone (The transmitter), T:106 with diagram Carbon-zinc cell Battery, B:154 Carbonades [food] Belgium (Way of life), **B:217** Carbonari (revolutionary group) Napoleon III (Early life), N:23 Carbonate, C:189 Carbonic anhydrase Respiration (Internal respiration), R:240 Carboniferous forest Forest (The first forests), F:351 with picture **Carboniferous Period** Australia (Palaeozoic Era), A:767 Coal (How coal was formed), Ci:120 Earth (The Palaeozoic Era), E:27; diagram on E:30 Forest (The first forests), F:351 Insect (The orders of insects), 1:261 Plant (Early plants), P:564 Carbonization Coal (Coal conversion). Ci:132 Fossil (How fossils form), F:371 with picture Carborundum, C:190 Gem (Cutting and polishing), G:71 Carbuncle, C:190 Carburettor, C:190 with diagram Car (The fuel system), C:154 Fuel injection, F:479 Petrol engine (Air and fuel), P:332 Carcass Lamb, L:33 Carcass [ship] Nelson, Horatio (Joins the Navy), N:71 Carcassonne [France], C:191 Carcinogen Cancer (Carcinogenesis), C:118 (Possible carcinogens) C:121 Carcinogenesis Cancer, C:120 Carcinoma Cancer, C:120 Tumour, T:438 Card Rope (How rope is made), **R:395** Card game, C:191 with pictures Game [recreation], G:24 Cardamom (plant), C:192 Cardan, Jerome Italian mathematician Electricity (History), E:171 Cardboard, C:192 Cárdenas, Lázaro, C:192 Avila Camacho, Manuel, A:888

changes), M:422

system) H:351

Cardiac muscle

Mexico (Economic and social Cardlac catheterization Heart (Symptoms and diagnosis), H:104 with picture Heart (Muscular walls), H:101 Human body, **H:354**; (The muscular

Human body (Cardiac muscle), H:354 Muscle, M:715 Cardiac pacemaker Electronics (Solid-state components), F:189 Cardiff [Wales], C:192 with picture and map Glamorgan, G:177; (Places to visit) C:180 Cardigan Welsh corgi, C:195 with picture Cardinal [bird], C:195 with picture Bird picture on, B:328 Cardinal [religious leader], C:196 See also list of Related Articles Address, Forms of, A:41 Pope. P:673 Religion (How the major religions are organized), R:200 Cardinal flower (plant), C:196 Cardinal honeyeater Bird picture on, B:335 Cardinal number Number and numeral, N:343 Carding Cotton (Cleaning and blending), Cl:387 with picture Carding length fibre Wool (Sorting and grading), W:311 Carding machine Cotton (Cleaning and blending), Cl:387 with picture Textile (Making the yarn), T:172 Cardiology, C:196 Heart, H:99; (table) H:102 Medicine, M:311 Cardiopulmonary resuscitation (CPR), C:196 with pictures First aid (Heart attack), F:147 Heart (Heart attack), H:106 Safety (In offices), S:13 Cardiothoracic surgery Surgery, So:439 Cardiotonic Drug, D:312 Cardiovascular disease Disease (Noninfectious diseases), Drug (Drugs that affect the heart and blood vessels), D:312 Heart, H:99 Cardiovascular system Heart, H:99 Cardosa, Fernando Henrique [Brazilian president Brazil (Brazil today), B:546 Carducci, Giosuè litalian poeti, C:197 Italian literature (Romanticism), R:446 Carew, Jan [West Indian writer], C:197 Carew, Thomas (English writer), C:197 Carey, George (English religious leaderl, C:198 Carey, Henry English composer God

Save the Queen, G:225

Carey, William [English Baptist]

Baptists (Early history), B:100

stories), A:832

picture with pictures Cargo cult, C:198 Cargo liner Cargo planes planes), A:86 Cargo ship H:263 W:171 Caribbean Dollar, D:249 CARICOM, C:199 W:172 W:172 FESTA) Caribbean Indians Colombia, Cl:172 Costa Rica, Ci:376 Caribbean Region Nicaragua, N:193 Carey, Peter (Australian writer), C:198 Mammal picture on, M:134 Australia, Literature of (Modern short Caribs [people]

See Carib Indians

Caricature [art], C:199 with pictures

Cargo Airport (Cargo handling), A:213 with Aviation (Airline operations), A:879 with picture, diagram on A:885 Net, N:86 with picture Ship (Classification of cargo ships), S:376; (General cargo ships) S:376 Transportation (Kinds of transportation), T:347 with pictures Pacific Islands (Religions), P:5 Airline (Carrying cargo), A:207 Aeroplane (Commercial transport Ship (Classification of cargo ships), \$:376 with picture Carías Andino, General Tiburcio (president of Honduras) Honduras (Recent developments), Carib Indians, C:198 Anguilla (History), A:375 Barbados (History), B:103 Dominica (History), D:257 Guadeloupe (History), G:391 Martinique (History), M:233 Montserrat (History), M:581 Saint Lucia (History), S:39 Trinidad and Tobago (History), T:407 West Indies (People), W:164; (History) Caribbean Sea,, C:198 North America (Central America and the Caribbean), N:252 West Indies, W:163 Caribbean Community and Common Market (CARICOM) West Indies (The West Indies today), Caribbean Development Bank (CDB) West Indies (The West Indies today), Caribbean Festival of Arts (CARI-West Indies (Other arts), W:168 Indian, American, I:161 Caribbean Lowlands Caribbean Sea, C:198 with map Pirate (Pirates of the Caribbean and other areas), P:520 Caribou [animal], C:199 Arctic (Animal life), A:542

146 CARICOM Daumier, Honoré, D:42 CARICOM, C:199, C:199 CARICOM, C:199 Common market, Ch221 Saint Lucia (Economy), S:39 Cartes Teeth (Diseases and defects of the teeth), T:93 Carillon, C:200 with pictures Bell (Chimes and carlllons), B:226 Carl Vinson [ship] Aircraft carrier (The modern carrier fleet), A:205 with pictures Carl XVI Gustaf [king of Sweden], C:200 Royal families (Sweden), R:420; picture on R:419 Carleton, Sir Guy [British general], C:200 Canada, History of (The Quebec Act), C:99 Carleton, William [Irish author], C:200 Carlisle (England), C:200 with picture Cumbria (Places to visit), Ci:496 Carlow [Ireland], C:201 with map Arms picture on, A:587 Carlsbad See Karlovy Vary Carisbad Caverns National Park [U.S.A.], C:202 with picture Carlsson, Ingvar (Swedish political Sweden, So:475 Carlsson, Pat Moss [British rally driver] Moss, M:638 Carlyle, Thomas [Scottish author], C:203 with portrait Biography (The 1800's), B:302 Scottish literature (1800-1900), S:176 Carmack, George W. [Canadian prospector) Klondike, K:296 Carman, Bliss (Canadian poet), C:203 May (Quotations), M:275 October (Quotations), 0:408 Carmarthen [Wales], C:203 Carmarthenshire (Wales), C:203 Carmel, Mount See Mount Carmel Carmelltes, C:203 Convent. Ci:318 Friar, F:458 Religious life (table), R:208 Teresa, Saint, T:155 Carmen [ballet] Petit, Roland, P:326 Carmen [opera by Bizet] Bizet, Georges, B:373 Opera, 0:468; picture on 0:459 Carmichael, Franklin (Canadian painterl Group of Seven, G:385 Carmichael, Hoagy American com-

poser], C:204

Orff, Carl, 0:493

Carmine

Lake, L:16

Carmina Burana [music by Orff]

Dye (Natural dyes), D:362

Carnaryon [Australia] Western Australia (Irrigation), W:180 Carnation (plant), C:204 with picture Carnauba palm Palm (Products of palms), P:107 Carnauba wax, C:204 Wax (Vegetable wax), W:106 Carneades (Greek philosopher), C:204 Carnegie Medal Literature for children, L:319 Carnegie, Andrew (Scottish-born American businessman], C:204 with portrait Philanthropy, P:364 Carnegie, Dale (American pioneer), Carnelian See Comelian Carnival [festival], C:205 Antiqua and Barbuda (Recreation), A≥460 Argentina (Recreation), A:556 Brazil (Recreation), B:535 with picture Colombia picture on, Cl:169 Easter (Easter customs), E:44 Rio de Janeiro (People), R:281 Trinidad and Tobago (Way of life). T:405; (Culture) T:405; picture on T:406 Carnival of the Animals, The music by Saint-Saëns) Saint-Saëns, Camille, S:44 Carnival [music by Dvořák] Dvořák, Antonín, D:359 Carnivore, C:205 Animal (A table of animal intelligence), Animal (Adaptations for eating), A:398 Ecology (Energy flow), E:57 Fish (How fish get food), F:172 Herbivore, H:163 Mammal (What mammals eat), M:130 with diagram; (table) M:137 Carnivorous plant Bladderwort, B:382 with picture Insectivorous plant, 1:265 Leaf (Insect-capturing leaves), L:132 with picture Plant (Insect-eating plants), P:566 with pictures Venus'-flytrap, V:343 with picture Carnotite [mineral], C:205 Nuclear energy (How nuclear energy is produced), N:323 Uranium (Sources of uranium), U:272 Vanadium, V:305 Carob [tree], C:206 Carol (song), C:206 Christmas, C:487; picture on C:489 Dancing (The Middle Ages), D:26 Carol I lking of Romanial, C:206 Romania (The origins of modern Romania), R:357 Carol II lking of Romanial, C:206 Romania (Depression and fascism), R:357 Carolina [U.S.A.]

Carnap, Rudolf [German philosopher] United States, History of the (The Positivism (Logical positivism), P:709 Southern Colonies), U:239 Carolina hemlock Hemlock [tree], H:149 Carolina parakeet Parakeet, P:168 Parrot (Kinds of parrots), P:200 Carolina poplar Poplar, P:681 Carolina yellow jessamine (plant) Gelsemium, G:70 Caroline drama Drama (Jacobean and Caroline drama) D:292 Caroline Islands, C:206 Carolingian architecture Architecture, A:523 Carolingian art, C:207 with picture Sculpture (Early medieval sculpture), S:208 with picture Carolingian cathedral Cathedral (Architectural history), C:264 Carolingian Empire Belgium (The Middle Ages), B:221 France (The Carolingian dynasty), F411 Franks, F:427 Middle Ages, M:447 Carolingian Renaissance Charlemagne (Administration and Influence). C:349 Middle Ages, M:447 Carom billiards Billiards and snooker, B:294 with picture Carotene Leaf (The leaf changes colour), L:127 Vitamin (Vitamin A), V:410 Carothers, Wallace H. [American chemist Nylon (History), N:370 Textile industry (The age of modern textiles), T:176 Carotid artery Artery (Principal arteries), A:605 Carotid endarterectomy isurgical procedure) Stroke (Prevention), So:358 Carousel [musical] Hammerstein, Oscar, II, H:32 Molnár, Ferenc, M:537 Rodgers, Richard, R:330 Carp, C:207 with picture Fish picture on, F:166 Goldfish, G:241 with pictures Carpal bone Hand (Parts of the hand), H:39 with dia gram Wrist, W:420 with diagram Carpal tunnel syndrome, C:208 with picture Carpathian Forelands Poland, P:629 Carpathian Mountains, C:208 Galicia, G:11 Poland (Land regions), P:628 Romania (Surface features), R:352 Ukraine, U:9 Carpenter ant Ant picture on, A:428; (Nests) A:430

Archaeology (The 1900's), A:504 with

picture

Carpenter bee, C:208 Bee, B:190 with picture Carpenter, M. Scott (American astronaut), C:208 Space exploration (Vostok and Mercury: The first humans in space), So:145 with picture Carpenter's level Level, L:196 Carpentry, C:208 Carpet beetle, C:209 with picture Insect picture on, I:247 Carpet Interior decoration (Floor coverings), See also Rugs and carpets Carpet making Wiltshire (Manufacturing), W:265 with picture Carpet snake, C:209 with picture Carpetbaggers [American history], Carracci, Annibale (Italian painter) Baroque (Baroque painting), B:116 Painting (Annibale Carracci and Michelangelo Caravaggio), P:62 Carrageen Irish moss, 1:384 Carrageenin Aquaculture, A:483 Food additive (Emulsifiers, stabilizers and thickeners), F:304 Seaweed (Uses), S:232 Carranza, Venustiano [Mexican general], C:209 Mexico (The Revolution of 1910). M:421; (The Constitution of 1917) Obregón, Álvaro, O:380 Villa, Pancho, V:392 Carrauntoohiii (mountain, Ireland) Ireland (Surface features), 1:357 Carriridge (Scotland) Highland Region (Places to visit), H:199 Carré, Ferdinand [French engineer] Refrigeration (Compression and absorption systems), R:185 Carré, Michel [French librettist] Opera (Faust), O:470 Carrel, Alexis (French surgeon), C:209 Medicine (The medical revolution), M:317 Carriage, C:209 Railway, Model, R:114 Carrick [England], C:210 Carrickfergus [Northern Ireland], C:210 Carrie [book by King] King, Stephen, K:255 Carrier [medicine] Cystic fibrosis, Ci:515 Disease (Spread of infectious diseases), D:191 Dysentery (Spread), D:366 Races, Human (Susceptibility to genetic diseases), R:48 Tay-Sachs disease, T:72

Carrier [ship]

Carrier frequency [radio]

Frequency band, F:455 Carrier pigeon, C:210 with picture Aircraft carrier, A:205 with pictures

C:213

Tutankhamen, T:476 Carrier rocket Carter, Jimmy [U.S. president], C:213 Rocket (Launching probes and satellites), R:318 Middle East (Attempt at peace), M:456 Cartesian system **Carrier transmission** Geometry (Analytic geometry), G:97 Cable (Types of cables), C:4 Telephone (Long-distance lines), T:107 Cartesianism [philosophy] Descartes, René, D:129 Carrier, Willis H. [research engineer] Carthage, C:213 with pictures Air conditioning (History), A:194 See also list of Related Articles Carrington, Lord (British political Dionysius the Elder, D:183 leaderl, C:210 Exploration (The Phoenicians), E:417 **Carrington, Peter Alexander Rupert** with map See Carrington, Lord Hannibal, H:54 Carroll, Lewis [English author], C:210 Libya (Early days), L:239 with portrait Mythology (The Aeneid), M:759 Fiction (Characteristics of fiction), F:69 Regulus, Marcus Atilius, R:189 Pen name, P:251 Rome, Ancient (History), R:377 Tenniel, Sir John, T:141 with picture Tunisia (History), T:443 Carros [vehicles] Drama (Religious plays), D:293 with Utica, U:287 Carthusians [religious group], C:214 Cartier-Bresson, Henri (French pho-Carrot [plant], C:211 with picture tographerl, C:215 Plant (Roots), P:553 with picture Photography (The photographic revo-Wild carrot, W:248 with picture lution), P:463 Carruthers, Jimmy [Australian boxer], **Cartier Island** C:211 Ashmore and Cartier Islands, A:621 Boxing (History), B:498 Cartier, Jacques [French navigator], "Carry Me Back to Old Virginny" C:214 with picture isong by Blandl Canada, History of (Early European ex-Bland, James A., B:384 ploration), C:97 Carrying [mathematics] Exploration (table), E:421; (The search Addition (How to carry), A:38 for a northern passage) E:422 Multiplication (How to carry in multi-Northwest Passage, N:289 plication), M:696 Numeration systems (Decimal arithme-Cartilage, C:216 Dwarf, D:360 tic), N:346 Ear (Parts of the ear), E:7 Carson Pirle Scott & Company Build-Fish (Kinds of fish), F:154 with pictures ing [Chicago] Architecture (Early modern architecloint, 1:136 Knee, K:297 ture in America), A:534; picture Nose, N:303 with diagram on A:536 Carson, Johnny [American entertainer], Ray, R:147 Rib. R:259 with diagram C:211 Cartland, Barbara (British novelist), Carson, Kit [American frontiersman], C:212 with portrait Cartioad of Clay, A [book by Johnston] Indian Wars (Navajo conflicts), 1:177 Carson, Lord [Irish barrister], C:211 with Johnston, George Henry, J:135 Cartography portrait Map, M:183 with pictures and maps Carson, Rachel American marine biol-Cartoon [art], C:216 with pictures ogistl, C:212 with portrait See also list of Related Articles Conservation (North America), Ch301 Animation, A:418 with pictures Carstensz, Jan [Dutch navigator], C:212 Boucher, François, B:486 Queensland (Early settlement), Q:25 Tapestry (How tapestries are made), Cart [vehicle] T:40 Transportation (Land transportation), Cartouche [architecture], C:220 with T:348; (Early development of wheeled vehicles) T:350 with pic-Hieroglyphics (Deciphering hieroglyphic writing), H:195 with pic-Cartagena [Spain], C:212 Cartel, C:212 Cartridge (ammunition), C:221 Economics (Markets, prices, and com-Ammunition, A:334 petition), E:62 Dynamite, D:365 Inflation (The cost-push theory), £230 Handgun (Types of handgun), H:42 Carter, Angela British writerl, C-212 Rifle (Rifle cartridges), R:274 Carter, Elliott [American composer], Cartridge [electronics] C:213 High-fidelity system, H:197 Carter, Howard (English archaeologist), Record player, R:163

148 Cartwright, Alexander Cartwright, Alexander [American sportsmanl Baseball, B:131 Cartwright, Edmund [English inventor], C:221 Clothing (The 1700's), Cl:103 Industrial Revolution (Weaving machines), I:213 Invention (Economic needs), I:310 Rugs and carpets (History), R:452 Textile (The Industrial Revolution), T:175 Weaving (History), W:126 Caruncle (zoology) Turkey (The body of a turkey), T:466 Caruso, Enrico (Italian tenor), C:221 with portrait Carver, George Washington | American scientist), C:221 with picture Carving, C:222 with picture See also list of Related Articles Australian Aborigines, A:836 Indian, American, 1:142 with pictures Islamic art, 1:421 with picture Ivory, I:474 with pictures Prehistoric people (The appearance of art). P:758 Sculpture (The sculptor at work), S:192 with picture Woodcarving, W:302 Carving in the round Woodcarving, S:302 Cary, Joyce [British novelist], C:223 Caryatid Sculpture (As part of architecture), S:189 with picture Casaba (fruit), C:223 with picture Melon (Types of melon), M:338 Casablanca [Morocco], C:223 Casals Festival (music) Puerto Rico (Arts), P:847 Casals, Pablo [Spanish cellist], C:223 with portrait Puerto Rico (Arts), P:847 Casanova, Giacomo Italian adventurer], C:224 with portrait Casbah Algeria (City life), A:262 Algiers, A:266 Cascade (geography) Waterfall, W:93 **Cascade Mountains** California (Land), C:38 Cascade Range, C:224 Cascara sagrada iplanti, C:224 with picture Case (grammar), C:224 Declension, D:72

Noun, N:309

Medicine (Diagnosis), M:307

normal psychology), A:12

Case moth [insect], C:225

Case history

Case study

Criminology, Cl:441 Cased pencil Pencil, P:254 with diagram Casein, C:225 Leather (Finishing), L:143 Caseinogen Emulsion, E:233 **Casement window** Window, **W:271** Casement, Roger British consular officiall, C:225 with portrait Casework See Social work Casey, Lord [Australian statesman], C:226 with portrait Cash crops Africa (Rural life), A:128 Cash register, C:226 with pictures Cash, Johnny [American singer], C:226 Cash, Martin [Australian bushranger], Cash, Pat [Australian tennis player], C:226 Cashew inutl, C:227 with picture Cashmere [fibre], C:227 Cashmere goat, C:227 Goat (Products), G:221 Cashmere goat, C:227 with picture Goat (Domestic goat), G:221 Ammunition, A:335 with diagram Petroleum, P:345 with diagram Turbine (How turbines work), T:447 Casing [food] Meat processing (Sausage making), Sausage, S:113 Casino Monte Carlo, M:574 with picture Roulette, R:411 Casino gambling Gambling, G:23 Casino Royale (book by Fleming) Fleming, Ian Lancaster, F:225 Casket Funeral customs (Preparation of the body), F:484 Casion, William British typeface founderl, C:228 with picture Book (The 1600's and 1700's), B:457 Caspian Sea, C:228 with map Asia (Coastline, bays, and lakes), A:646 with map Fishing industry (Inland fisheries), F:190 Iran, I:338 with picture; (Climate) 1:337 Lake (table), L:19 Russia (Rivers and lakes), R:479 Caspian term Tern, T:157 with picture Caspian tiger Psychology (Systematic assessment), Tiger (The rare tiger), T:245 Cassai, Tommaso See Masaccio Law (Common-law systems), L111 Cassandra [Greek mythologyl, C:228 Paris, P:174 Cassaria [play by Aristo] Abnormal psychology (Studies in ab-Drama (Italian Renaissance drama),

D:290

Cassatt, Mary [American painter], C:22 with picture Impressionism (French impressionism), I:47 Painting (United States painting), P-73 Cassava, C:229 with pictures Brazil (Food and drink), B:534 Food (Customs), F:297 Food supply (Other major food sources), F:311 Paraguay (Food and drink), P:163 Tapioca, T:41 Cassegrain telescope Telescope (Reflecting telescopes), T:113; picture on T:114 Cassegrain, N. [French inventor] Telescope (Reflecting telescopes), T:113 Cassette Tape recorder (Kinds of tape recorders), T:39 with diagram Television (Video entertainment systems), T:121 Videotape recorder, V:369 with pic-Cassia (plant), C:230 Cinnamon, Cl:4 Cassidy book by Westl West, Morris, W:155 Cassini, Jean-Domenique (French as tronomer Map (Advances in European cartography), M:191 Saturn (Rings), S:101 Cassino [Italy], C:230 World War II (The invasion of Italy), W:393 Cassiodorus [Roman nobleman] Library (The Middle Ages), L:231 Cassiopeia (constellation), C:230 Telescope picture on, T:116 Cassiterite [mineral], C:230 Tin (Where tin is found), T:259 Cassius Longinus, Galus [Roman gen: eral], C:230 Caesar, Julius (Assassination), C:13 Cassock Pope (Titles, clothing, and symbols), P:674 Casson, Sir Hugh [British architect], 65530 Casson, Sir Lewis [British actor], C230 Cassoulet [food] France (Food and drink), F:399 Cassowary, C:230 with picture Cast and casting, C:231 with pictures See also list of Related Articles Glass (How glass is shaped and finished), G:193 Iron and steel picture on, 1:387 Sculpture (The sculptor at work), S:192; (Greek sculptors) S:192; Medieval and Renaissance sculp tors) S:193 Cast Fossil (How fossils form), F:371 Cast Idramal Film industry (Assembling the cast), F:85

Social class, So:2 Village, V:393 World, History of the (Achievements in India), W:340 Castel dell'Ovo Naples (The city), N:17 Castel Gandolfo [Italy] Pope (The daily life of the pope), P:674 Castell Coch [Wales] Glamorgan (Places to visit), G:180 Castelo Branco, Humberto [Brazilian political leader! Brazil (Return to constitutional government), B:545; (Under military rule) Castiglione, Baldassare [Italian writer], C:233 Etiquette (Books on etiquette), E:344 Italian literature (Humanism and the Renaissance), 1:445 Renaissance (Humanism), R:215 Castile and Aragon [Spain], C:233 Spain (Reconquest by the Christian kingdoms), So:182 Castile [Spanish history] Castile and Aragon, C:233 Isabella I, 1:411 Castillan Spanish Spanish language, So:192 Castilla, Ramón [Peruvian statesman], Peru (The early republic), P:316 Casting See Cast and casting Casting machine Monotype (How the Monotype works), M:570 with picture Printing (Typesetting), P:781 Castie, C:234 with pictures See also list of Related Articles France picture on, F:402 Shelter (The Middle Ages), \$:351 World, History of the picture on, W:342 Castle, Barbara (British politician), C:241 with portrait Castle, The book by Kafkal German literature (Expressionism), G:110 Kafka, Franz, K:179 Castle Acre [England] Norfolk (Places to visit), N:241

Theatre (Casting), T:194 with picture

Iron and steel, 1:387; (Making iron

Castanets [percussion instrument],

Termite (Life and habits), T:156

Hinduism (Social divisions), H:210

India, Philosophy of (Jainism), I:131

Segregation (Segregation in other

Alloy (Alloys of iron), A:278

products):391

C:233 with picture Caste lentomology

Caste Isociologyl, C:233 Bangladesh (Religion), B:85

India (Religion), 1:63

countries), S:239

Cast iron, C:233

Ant, A:430

Castle Coole Stately homes (table), So:300 Castle Hill Rising, C:241 Castle Morpeth [England], C:241 Castle of Indolence, The Ipoem by Thomsonl Thomson, James, T:224 Castle of Otranto, The lbook by Wal-Gothic novel, G:264 Romance, R:347 Walpole, Horace, W:27 Castle Point (England), C:241 Essex (Local government), E:332 Castle Rackrent (book by Edgeworth) Edgeworth, Marta, E:76 Irish literature (Prose and poetry), Castle Rising [England] Norfolk (Places to visit), N:241 Castlemaine |Australia| Gold rush picture on, G:238 Castlereagh [Northern Ireland], C:241 Castlereagh, Viscount British statesman), C:241 with portrait Castor and Pollux [Greek mythology], C:241 Castor and Pollux [work by Rameau] Rameau, Jean-Philippe, R:131 Castor [England] Cambridgeshire (Places to visit), C:50 Castor oil, C:241 with picture Laxative, L:123 Castration Cat (Birth control), C:253 Dog (Social and moral responsibilities), D:238 Pet (Birth control), P:323 Castries [St. Lucia], C:242 Saint Lucia, S:38, S:39 Castro, Fidel (Cuban political leader),

C:242 with portrait Cuba, Cl:472; (The Castro revolution) Ci:481 with picture Elsenhower, Dwight David (Second Administration), E:134 Guantánamo, G:393 Guerrilla warfare (History), G:404 Guevara, Ché, G:405 Havana, H:79 Kennedy, John Fitzgerald (Cuba), K:217 Latin America (Political unrest), L:94 with picture Caswell, Hollis Leland (American educatori, C:242 Cat, C:243 with pictures See also list of Related Articles

Animal (Adaptations for sensing the environmenti, A:401 Animal (Animals and people), A:379 with picture; (The cat and its relatives) A:380 with picture Brain diagram on, B:519 Eye (Eyes of animals), E:444 Skull, S:474 with picture Cat lisland Bahamas (Land and climate), B:30 Cat, The [book by Colette]

Colette, Ci:162

Cat and Mouse [book by Grass] Grass, Gunter, G:304 Cat flea linsectl Insect (table), 1:262 Cat-o'-nine-tails

Convicts in Australia (Punishment),

Cat on a Hot Tin Roof [play by Williams

Williams, Tennessee, W:258 CAT scan

See Computerized tomography Cat Who Walks Through Walls, The

[book by Heinlein] Heinlein, Robert A., H:135

Catabolism

Metabolism, M:373 Catacombs, C:255 with picture Rome, R:368 with picture

Catadioptric telescope Telescope (Refracting-reflecting telescopes), T:114

Catalan (language) Andorra (People), A:360 Spain (Language), So:172 Spanish language (Castilian Spanish), So:192

Catalan forge Iron and steel (History), 1:400 Catalepsy, C:255 Cataloging in Publication

Library of Congress, L:236 Catalogue Advertising (Direct mail), A:62

Library (The growth of information),

Catalogue of Nebulae and of Star Clusters [book by Messler] Messier, Charles, M:373

Catalogue of Variable Stars in Globular Clusters (book by Hogg) Hogg, Helen Sawyer, H:242

Catalonia [region, Spain] Spain (Language), So:172; (Recent de-

velopments) So:185 Catalonia (music by Albeniz)

Albeniz, Isaac, A:233 Catalpa (tree), C:255 with picture Catalysis, C:255

Nickel (Industrial uses), N:200

Catalyst Enzyme, E:310

> Haber process, H:2 Hydrogenation, H:406 Nitrogen (Production of ammonia), Paint (Kinds of paint), P:23

Palladium, P:106 Petroleum (Cracking processes), P:349 Sodium (Uses), So:16 Vanadium, V:305

Water glass, W:86

Catalytic converter, C:256 with picture Air pollution (Control of air pollution), A:203 with picture Car (Environmental impact), C:153;

(The exhaust system) C:156 Palladium, P:106 Petrol engine (Air pollution controls),

Insect (Muscular system), 1:251; (Hear-

phosis) 1:255 with diagram

Jumping bean, J:164 with picture

Tent caterpillar, T:153 with picture

Larva picture on, L:67

ing) 1:252; (Complete metamor-

P=134 Catfish, C:259 with picture Electron gun, E:178 Petrol (Petrol additives), P:330 Ion (Behaviour of ions), 1:326 Catgut. C:259 Technology (Combating undesirable Cathari [religious sect] Silver (Extracting and refining silver), effects), T:87 Albigenses, A:234 S:429 Tetraethyl lead, T:166 Catharsis [psychiatry], C:259 Vacuum tube (How a vacuum tube Catalytic cracking Aristotle (Literary criticism), A:569 works), V:297 with diagram Petroleum (Cracking processes), P:349 Cathay, C:259 Cathode current-collector Catamaran (boat), C:256 with picture Polo, Marco, P:659 with map Battery (Carbon-zinc cells), B:154 Boating (Other types of boats), B:414 Cathedral, C:260 with pictures and dia-Cathode-ray tube Cataplexy, C:256 Communication (In business and in-Narcolepsy, N:25 See also list of Related Articles dustry), Cl:228 Catapult, C:257 with picture Córdoba, Ci:351 Computer (Terminals), Ci:258 Aircraft carrier (Flight operations), City (Description), Ci:26 with picture Oscilloscope, O:509 A:205 World, History of the (The Byzantine Printing (Photocomposition), P:781 Archimedes (His inventions), A:511 Empire), W:344 Thomson, Sir Joseph John, T:224 Navy (Navies in the Middle Ages), N:60 Cathedral chapter Vacuum tube (Kinds of vacuum tube). Cathedral (Organization of a Cathe-Cataract [disorder], C:257 WHEN Blindness, B:388 dral), C:260 Cathode-ray tube photocomposition Eye (Diseases of the eye), E:441 Cathedral finances Photocomposition, P:433 Cataract [geography] Cathedral (Cathedral finances), C:261 Cathode rays, C:267 Waterfall, W:93 Cathedral, The [book by Waipole] Crookes, Sir William, Cl:452 Cathird, C:257 Walpole, Sir Hugh Seymour, W:28 Thomson, Sir Joseph John, T:224 Catch-22 [book by Heller] Cather, Willa [American author], C:266 Cathode-ray tube American literature (Fiction and other with portrait Electronics (Electron tubes), E:187 prose), A:320 American literature (Realist fiction), Catholic Church, Roman Heller, Joseph, H:145 A:318 See Roman Catholic Church Novel (After World War II), N:314 Catherine de Médicis, C:266 Catholic Emancipation Act of 1778 Catcher boat Charles IX, C:352 Gordon Riots, G:258 Whale (Hunting techniques), W:212 Dancing (The Renaissance), D:26 Catholic Schools (book by Conway) Catcher in the Rye, The Ibook by Salin-Henry II, H:153 Conway, William Cardinal, Ci:327 Medici, M:305 Catiline [Roman political leader], C:267 American literature (Fiction and other Saint Bartholomew's Day, Massacre of, Caesar, Julius (Alliance with Pompey), prose), A:320 Novel (After World War II), N:314 Tuileries, T:436 Cicero, Marcus Tullius (His works), Salinger, J. D., S:51 Catherine I iruler of Russial, C:266 Ch2 Catcher's mitt Catherine II, the Great (ruler of Russia), Cation Baseball (Equipment), B:125 with pic-C:266 with portrait Electrolyte, E:176 ture Diamond (Famous diamonds), D:155; Ion (Behaviour of ions), 1:326 Catchfly [plant] picture on D:153 Pyroxene, P:876 Campion, C:69 Jones, John Paul, J:139 Soil (Chemical conditions), So:22 Catchpole, Margaret (Australian Russia, R:487; picture on R:488 Cation exchange nursel, C:257 with portrait Russo-Turkish wars, R:503 Soil (Chemical conditions), So:22 Catchstich Succession wars (The War of the Ba-Catkin [flower cluster], C:267 with pic-Sewing (Hand stitches), \$:286 with diavarian Succession). So:379 gram Catherine of Aragon, C:266 with por-Alder, A:240 with picture Catechism [religion], C:258 trait Birch, B:314 with picture Catechu, C:258 Boleyn, Anne, B:424 Cottonwood, Ci:390 Acacia, A:17 England (The Wars of the Roses), Poplar, P:681 Categorical syllogism E:277; (The English Reformation) Pussy willow, P:869 with picture Logic, L:362 E:277 Walnut, W:27 Catenary Henry VII, H:152 Willow, W:259 Electric railways (Kinds of electric rail-Henry VIII, H:152 Catlin, George (American artist), C:267 ways), E:163 with picture Catherine of Siena, Saint, C:267 with portrait Locomotive (Electric locomotives), Catherine wheel Catmint [plant], C:268 with picture L:353; picture on L:352 Fireworks (How fireworks work), F:140 Cato Street Conspiracy, C:268 Caterpillar, C:258 with picture Catheter Cato, Marcus Porcius, the Elder See also list of Related Articles Arteriosclerosis (Prevention and treat-[Roman statesman], C:268 Animal picture on, A:398 ment), A:605 Latin literature (Early Latin literature), Butterfly, B:680 with picture; (The life Computerized tomography (CT), Ci:271 cycle of butterflies) B:687 with Heart (Symptoms and diagnosis), Cato, Marcus Porclus, the Younger pictures H:104 with picture [Roman statesman], C:268 Cabbage picture on, C:2 Cathode Cato [play by Addison] Gypsy moth, G:444 with picture

Battery (How dry primary batteries

Crookes tube, Ci:453 with diagram

Electrolysis (How electrolysis works),

Electric eye (Phototubes), E:144

work), B:154

Electric arc, E:140

E:175

Addison, Joseph, A:35

Cat's claw iplanti

Cat's cradle

Catriona [book by Stevenson]

writings), So:322

Acacia, A:17 with pictures

Stevenson, Robert Louis (Stevenson's

Magic (Homeopathic magic), M:45 Caucus [political], C:280 Cro-Magnon man, Cl:443 Cat's-eye Igeml, C:268 with picture Caudal fin Horse picture on, H:303 Cats of Venice, The [book by Porter] Fish (Fins), F:167 with diagram Painting (What do painters paint), P:31 Caudal vertebra with picture; (Prehistoric painting) Porter, Hal, P:696 Catseye [roadstud], C:269 with picture Mammal (Skeleton), M:127 P546 Catskill Mountains, C:269 Caulfield Cup, C:280 Prehistoric people (The appearance of New York (Land), N:140 Cauliflower, C:280 with picture art), P:758; picture on P:757 Catspaw [plant], C:269 Caulking, C:281 South Africa, History of picture on, Cattali [plant], C:269 with picture Palm (Products of palms), P:107 So:76 Causality Cave Temple Bulrush, B:643 Aristotle (Philosophy of nature), A:568 Sculpture (India), S:197 Cattalo Caveat emptor, C:286 Buffalo (Protection of bison), B:623 Hume, David, H:366 Metaphysics, M:379 Consumerism (Early buyer-seller rela-Hybrid, H:393 Philosophy (Empiricism), P:425 tionships), Cf:313 Cattle, C:270 with pictures See also list of Related Articles Cause and effect [philosophy] Cavefish, C:287 Hume, David, H:366 Eye picture on, E:443 Animal (Animals and people), A:379 Fish picture on, F:166 Cause Célèbre [play by Rattigan] with picture Cavelier, René-Robert [French ex-Rattigan, Sir Terence, R:144 Droving, D:310 plorerl Hereford and Worcester (Agriculture), Caustic (chemical), C:281 Canada, History of (The royal prov-H:176 Caustic (optics) ince), C:98 India (Agriculture), 1:72 Aberration, A:11 La Salle, Sieur de, L:68 with portrait Queensland (Farming), Q:22 Caustic potash New France (Exploration and settle-Salt picture on, S:57 Base, B:123 Cattle bot fly Caustic, C:281 ment), N:112 Cavell, Edith Louisa [English nurse], Bot fly, B:478 Caustic soda C:287 with portrait Cattle drive Base, B:123 Cavendish, Henry English physicist, Cowboy, Ch408 with picture Caustic, C:281 Cattle egret (bird) Soda, So:15 Sodium hydroxide, So:16 Chemistry (The phlogiston theory), Egret, E:99 C:369 Cattle grub Cavalier Hydrogen (Properties), H:404 Warble fly, W:37 Civil War, English, Ci:44 England (The Civil War), E:278 Caversfield (England) Cattle plague Oxfordshire (Places to visit), 0:534 Rinderpest, R:278 Hairdressing (The 1600's), H:12 Caviar, C:287 with picture Cattle Raid of Cooley, The [Irish epic] Hat picture on, H:77 Cavalier King Charles spaniel, C:281 Astrakhan, A:680 Cuchulainn, Cl:485 Food (Food from animals), F:295 Cavalier poets [English literature] Irish literature (Heroic tales, romances, Iran (Fishing industry), 1:338 Carew, Thomas, C:197 and sagas), 1:381 Russia (Fishing industry), R:482 Mythology (The Ulster cycle), M:760 Lovelace, Richard, L:406 Cavour, Count di [Italian statesman], Cattle ranch Poetry (Renaissance poetry), P:615 C:287 See Ranching Suckling, Sir John, So:379 Cattle tick, C:280 with picture Italy (Italy united), I:469 Cavaileria Rusticana lopera by Mas-Cavy (rodent), C:287 with picture Cattle warble cagni] Cawdrey, Robert [English educator] Warble fly, W:37 Leoncavallo, Ruggiero, L:181 Dictionary (Early English dictionaries), Catton, Bruce [American historian], Mascagni, Pietro, M:240 D:166 C:280 Opera, 0:469 Cawl [food] Catulii Carmina (music by Orff) "Cavalieria Rusticana" (story by Vergal Wales (Food), W:13 Orff, Carl, O:493 Verga, Giovanni, V:345 Cawley, Evonne [part-Aboriginal tennis Catullus, Gaius Valerius (Roman poet), Cavalry, C:281 with picture playerl, C:288 Cavan [Ireland], C:282 with map Latin literature (The age of Cicero), Cawnpore Arms picture on, A:587 See Kanpur 199 Cave, The [work by Warren] Catuvellauni [people] Cawthron Institute Warren, Robert Penn, W:40 Cymbeline, Cl:512 Nelson, N:71 Cave and the Spring, The (work by Caxton, William (English printer), C:288 Cauca River Hope Advertising (The impact of printing), South America, So:94 Hope, Alec Derwent, H:275 Caucasia [region], C:280 A:66 Cave, C:283 with pictures Encyclopedia (From the 1200's to the Caucasian rugs See also list of Related Articles Rugs and carpets, R:452 1600's), E:240 Cave dwellers, C:286 Malory, Sir Thomas, M:120 Caucasoids Shelter (Prehistoric times), S:351 Europe (Racial groups), E:363 Cay [geography] Cave dwellers, C:286 Races, Human (Systems of racial classi-Great Barrier Reef (Physical features), Prehistoric people (Neanderthals), P:756; (The single origin theory) G:312 fication), R:43 with picture Caucasus Mountains, C:280 Saint Vincent and the Grenadines, S:45 Azerbaijan (Land and cilmate), A:897 Swain reefs, So:453 Cave-dwelling crayfish Turks and Calcos Islands, T:469 Georgia (Land and climate), G:102 Evolution (Vestigial organs), E410 with Russia (The European Plain), **R:477** Virgin Islands, British, V:402 picture Cauchy, Augustin Louis | French math-Cayenne [French Gulanal, C:288 Cave man French Guiana, F:441 with picture ematician)

See Cave dwellers

Cave painting

Mathematics in the 1800'sl, M:260

Cayenne pepper, C:286

Cecil, Robert British government offi-

Capsicum, C:148 ciall. C:290 Fertilization, F:59 Heredity (The structure of chromo-Cayley, Sir George [British inventor], Cecilia, or Memoirs of an Heiress C:288 [book by Burney] somes and genes), H:166 Human body (Celis and tissues), H350 Burney, Fanny, B:662 Aerodynamics (History), A:73 Aeroplane (First manned flights), A:76 Cecilia, Saint, C:290 Immune system, 1:38 Cedar Itreel, C:290 with picture Glider (Early days), G:208 Plant, P:540; (Parts of plants) P:553; Cayman [reptile] Conifer, Cl:285 with picture (Factors affecting plant growth) Alligator, A:275 Juniper, J:169 Pencil (Cased pencils), P:254 Reptile (Crocodillans), R:231 Reproduction (How genes are trans-Cayman Islands, C:288 Tree picture on, T:386 ferred), R:223 Cayuga [tribe] Cedar waxwing Cell body Indian, American (Indians of the North-Waxwing, W:106 with picture Nervous system (Parts of a neuron). east), I:152 Cedras, Raoul N:R2 Cazabon, Michel, C:289 Aristide, Jean-Bertrand, A:566 Cell culture Cazaly, Roy | Australian Rules foot-**Ceiling price** Culture, Ci:494 ballerl, C:289 Price (Government intervention), P:774 Cell division Cazuela de ave [food] Ceirlog [Welsh poet] Baby (Before birth), B:4 Chile (Food and drink), C:418 Welsh literature (Later literature), Cancer (How cancer develops), C:118 **CB** radio W:151 Cell, C:296 See Citizens band radio Cel animation Chromosome, C:498 Animation, A:420 with pictures cd Embryo, E:226 Candela, C:124 Célérifère Cell-mediated immune response CD [recording] Bicycle (Early bicycles), B:283 Immune system (The immune re-See Compact disc Celandine |plant|, C:290 with picture sonse), I:40 Cd [symbol] Celebes Cell metabolism Cadmium, C:12 Indonesia (The islands), 1:187 Thyroid gland, T:235 CD4 cell Celery [plant], C:291 with picture Cell theory AIDS (How AIDS affects the body), Blanching, B:384 Biology (Materialistic physiology and A:179; (Medical care for HIV in-Celery cabbage the cell theory), B:307 fection and AIDS) A:180 Cabbage, C:2 Cell wall CD-ROM Celesta (musical instrument), C:291 with Bacteria (The structure of bacteria), Compact disc, Cl:246 picture B:20 with diagram Laser (Recording, storing, and trans-Celestial equator Cellini, Benvenuto (Italian goldsmith), mitting information), L:70 Astronomy (Astronomy terms), A:688; C:305 Optical disc, 0:479 (Locating objects in the sky) Goldsmithing, G:243 CD-ROM (Compact Disc Read-Only A:692; diagrams on A:690 Sculpture (Michelangelo), S:212 with Memory) Equator, E:314 picture Encyclopedia (New types of encyclo-Equinox, E:314 Cello [musical instrument], C:305 with pedia), E:237 Celestial Mechanics (book by Laplace) picture Ce (symbol) Laplace, Marquis de, L:62 Cellophane, C:306 Cerium, C:329 Celestial meridian Cellular plastic Ceausescu, Elena lwife of Nicolae Time (Measuring time by the sun), Insulation (In buildings), 1:269 with pic Ceausescu] T:256 ture Ceausescu, Nicolae, C:289 Celestial navigation Plastics (Foaming), P:582 Romania (Recent developments). Navigation, N:52 with pictures Cellular respiration R:358 Star (Measuring direction and posi-Respiration, R:240 Ceausescu, Nicolae [Romanian political tion), So:283 with diagram Cellular telephone, C:306 leaderl, C:289 Celestial poles Communication (The development of Bucharest, B:607 Astronomy (Astronomy terms), A:688; modern communication), Cl:234, Communism (in Eastern Europe), (Locating objects in the sky) picture on Ch237 CI:244 A:692; diagrams on A:690 Electronics, E:184 Romania (Opposition to U.S.S.R.), Pole, P:637 Telephone (Recent developments), R:358; (Recent developments) Celestial sphere T:110 R:358 Horizon, H:277 Celluloid Cebu [island], C:289 Celibacy, C:291 Plastics (The invention of Celluloid), Philippines (The main islands), P:380 Pope (The early Middle Ages), P:676 P:582 Cebu City, C:289 Religious life (Christian communities), Cellulose acetate Cecil [family], C:289 R:207 Cellulose (Industrial uses), C:307 Cecil, David George Brownlow Céline, Louis-Ferdinand [French novel-Plastics (table), P:579; (The invention of See Exeter, Marquess of ist], C:291 Celluloid) P:582 Cecil, Lord David (English author), Cell [biology], C:292 with pictures Rayon (How rayon is made), R:148 C:290 See also list of Related Articles Cellulose, C:306 Cecil, Reverend W. [English inventor] Aging (Overcoming aging), A:159 Carbohydrate (Complex carbohydrates), C:187; (How the body uses Petrol engine (Development of the pet-Bacteria (The structure of bacteria). rol engine), P:334 B:20 with pictures carbohydrates) C:187 Cecil, Robert Arthur Talbot Gas-Botany (Cytology and histology), B:479 Cellophane, C:306 coyne (British government official) Death (Medical aspects of death), D:58 Fibre (Regenerated fibres), F:67 Salisbury, Marquess of, S:51 Egg (Development of a bird's egg),

E:95

Lacquer, L:9

Lignin, L:274

Cement-Roadstone Holdings (C.R.H.), Conservation (Latin America), Ch302 Paper, P:134 Football, Association, F:334 Plant, P:540 Plastics (The invention of Celluloid), Cementum Latin America (The wars of indepen-Teeth, T:92 dence), L:90 P:582 Tree (How trunks and branches grow Cemetery North America, N:252 thicker), T:379 Potter's field, P:722 Pyramids (American pyramids), P:873 Wood (The composition of wood), Cenobitic rule Railway, R:104 Religious life (The Eastern Orthodox Village, V:393 W:300 Churches), R:208 Central America, United Provinces of Cellulose fibre Rayon (How rayon is made), R:148 Cenozoic Era [geology], C:314 Honduras (Independence), H:263 Australia (Geology), A:767 Cellulose products Central Asia Dinosaur (table), D:178 Asia (Way of life in Central Asia), A:643 Forest products, F:354 Earth, E:28 with picture; (table) E:30 with pictures and map Cellulose xanthate Forest (Later forests), F:352 Central bank Rayon (How rayon is made), R:148 Plant (Early plants), P:564 Bank, B:93 Cellulosics Prehistoric animal (The world of pre-Central Belt Fibre (Manufactured fibres), F:67 historic animals), P:743; (The age Burma, **B:659** Textile (Manufactured fibres), T:170 Central Criminal Court of mammals) P:747 with picture; Celsius scale, C:307 with picture Old Bailey, 0:427 (The development of placentals) Heat (Temperature and heat), H:117; Central Desert Area (Australia) P:747 (Changes in temperature) H:119 Northern Territory (Land), N:279 Censer, C:314 with picture Metric system (Temperature measure-South Australia, So:110 ments), M:386 Censorship, C:314 Western Australia, W:177 Temperature, T:136 Film industry, F:95 Central dogma [biology] Thermometer (Temperature scales), Journalism (Major issues in journal-Molecular biology (The beginnings of ism), J:151 molecular biology), M:532 Celsius, Anders [Swedish astronomer] Library, L:216 Central fissure Plato (Art), P:591 Celsius scale, C:307 Propaganda, P:805 Celtic art, C:307 with pictures Central heating Public opinion (Public opinion and Celtic cross Heating, H:125 government), P:839 Celtic art (Sculpture), C:309 with pic-Central Highland Radio (Government regulation of Panama, P:118 with picture Ireland (Arts), 1:356 with picture radio), R:79 Russian literature (Late romanticism). Central Highlands Celtic Fairy Tales [book by Jacobs] Jacobs, Joseph, J:8 Afghanistan, A:113 R:498; (Soviet literature) R:500; Celtic language (Recent Soviet literature) R:501 Costa Rica, Cl:376 France, F:404 with map Celts, C:310 Census, C:315 Comwall (Customs and language), Computer (The first successful com-Nicaragua, N:193 Cl:358 puter). Cl:264 with picture Gaelic language, G:6 Demography, D:105 C:321 Gaul, G:63 Domesday Book, D:257 Ireland (Language), 1:355 Population, P:685 Central limit theorem Language (Indo-European), L:52 Centaur (Greek mythology), C:315 Celtic mythology Hercules (The death of Hercules), **Central Low Plateaus** Mythology, M:760 with picture H:164 Celtic painting Belgium, B:219 Mythology picture on, M:758 Painting, P:52 Central Lowlands Centigrade Celts (people), C:310 Australia, A:762 Celsius scale, C:307 Oueensland, Q:20 Comwall (History), Cl:360 Heat (Temperature and heat), H:117 Central Market Druids, D:324 Centilitre England (The first invaders), E:273 Weights and measures, W:136 Halloween (The Celtic festival), H:24 Centimetre (unit of measure), C:316 Ireland, History of, 1:366 Burglar alarm, B:650 Metric system, M:385 New Year's Day (Early customs), N:139 Central nervous system Weights and measures, W:136 Celtuce lettuce Human body, H:358 Centimetre-gram-second Nervous system, N:81 Lettuce (Kinds of lettuce), L:194 with Dyne, D:365 Centipede lanimall, C:316 with picture picture Cement and concrete, C:311 with picsystem), P:168 Central African Republic, C:316 with picture and map See also list of Related Articles Reye's syndrome, R:247 Flag picture on, F:200 Cement manufacture **Central Plains** Central air conditioners Edison, Thomas Alvar (Later work), Poland, P:629 Air conditioning (Kinds of air condi-South America, So:92 tioners), A:193 Cement mixer Thailand, T:182 **Central Alps**

Austria, A:863

Central America, C:318

See also list of Related Articles

gered species) B:357

Bird (Birds of Central and South Amer-

ica), B:330 with pictures; (Endan-

Construction equipment (Mixing),

Edison, Thomas Alvar (Later work),

Warwickshire picture on, W:50

Ci:310

Cement production

Brain (The cerebrum), B:511 Germany, G:124 with picture Central Intelligence Agency (CIA), Strategic Services, Office of, So:344 Statistics (Probability), So:303 Kuaia Lumpur picture on, K:338 Central monitoring station Paralysis (Paralysis of central nervous Reproduction, Human, R:229 Central Plateau Saudi Arabia, S:107 Ukraine, U:9 **Central Powers** Germany (World War I), G:135 World War I, W:362

Cephalopod [mollusc]

Cephalothorax [zoology]

Arachnid, A:495

Prehistoric animal picture on, P:745

Shrimp (The body of a shrimp), S:400

Cephalosporin (antibiotic), C:325

Central Region [El Salvador]

Brain (The cerebrum), B:511; (The work El Salvador, E:222 of the brain) B:514 with diagram Central Region [Australia] Cepheid variable Cerebral palsy, C:328 Brain (Disorders of the brain), B:517 Tasmania, T:56 with map and picture Astronomy (Brightness measurement), Central Region [Scotland], C:321 Cerebrospinal fluid, C:328 See also list of Related Articles Leavitt, Henrietta Swan, L:144 Brain (How the brain is protected), B:512 Arms picture on, A:589 Star (Variable stars). So:285 Central Siberian Plateau Cepheid variables (book by Leavittl Meningitis, M:347 Russia, R:478 Leavitt, Henrietta Swan, L:144 Respiration (Control of breathing), Central time Ceram R:240 Time (map; Standard time zones), Indonesia, £190 with maps Cerebrum T:254 Ceramics, C:325 with pictures Brain, B:511 with picture Central Uplands See also list of Related Articles Nervous system (The central nervous China, C:451 with picture C:452 Antique, A:463 with pictures system), N:81 Celtic art, C:310 Europe (Land regions), E:371 with pic-Ceredigion [Wales], C:328 Cermet, C:329 Ceremony isociologyi Indian, American (Shamans, priests, Central Valley Clay, Ci:70 California (Land), C:38 Engineering (Materials engineering), and prophets), 1:148 Centrally planned economy E:257 Marriage (Wedding ceremonies and Communism (Communism in practice), Geometric style, G:94 customs), M:218 Ci:239 Plastics (To replace glass and ceram-Masonry, M:243 Centre of gravity ics). P:578 Mythology (Frazer's theory), M:763 See Gravity, Centre of Porcelain, P:687 with pictures Ceremony of Carols, A Iwork by Brit-Centre of mass [physics] Pottery, P:722 tenl Gravity, Centre of, G:310 Tile, T:247 Britten, Benjamin, B:582 Centre of symmetry Ceratopsian Ceres [astronomy], C:328 Crystal (Classifying crystals), Ci:469 Dinosaur (Ornithischians), D:180 Asteroid, A:678 Centre work [ballet] Cerberus [mythology], C:327 Ceres [Roman mythology], C:329 Ballet (Ballet classes), B:50 with pic-Hercules (The second six labours), Certurn [element], C:329 ture H:164 Berzelius, jöns Jakob, B:261 Centreboard [boat] Cercus Cermet, C:329 Sailing (Hull), S:22 with diagram; (Con-Insect (Abdomen), 1:250; (Hearing) **CERN, C:329** trolling direction) S:24 Cernan, Eugene A. [American astro-Centrifugal-flow compressor Cereal, C:327 nautl Jet propulsion (Turbojet), J:103 with di-Barley, B:112 with pictures Space exploration (Other moon landagram Bran. B:522 ings), So:153 Centrifugal force, C:323 Food (Food from plants), F:294 Cerro de Punta (mountain) Centrifugal method Food supply (Cereal grains), F:311 Puerto Rico (Land and climate), P:848 Uranium, U:275 with picture Grain, G:285 Cerro Gordo, Battle of Centrifugal pump Grass (Cereals), G:303 Mexican War, M:396 Construction equipment (Pumping ma-Livestock (Feed), L:338 Cerro Tololo Inter-American Observ chines), Cl:310 Maize, M:71 atory Pump, P:853 with picture Millet, M:474 Astronomy picture on, A:690 Centrifuge (instrument), C:324 Nutrition (Carbohydrates), N:363: National Optical Astronomy Obser-Cell (Looking at a cell), C:293 (Basic food groups) N:365 with vatories, N:36 Olive oil. 0:430 picture Observatory (table), O:382 Plasma (Uses in medicine), P:575 with Cervantes, Miguel de [Spanish author. Oats, 0:376 picture Rice, R:261 C:329 with portrait Wine (Clarifying and aging the wine), Rye. R:508 Don Quixote, D:263 W:275 Wheat. W:215 Novel (Later European narratives), Centrioles Cerebellum Cell, C:295 Spanish literature (Prose), So:194; (The Brain, B:511 with picture Centripetal force, C:324 Nervous system (The central nervous 1600's) So:194 Centrosphere, C:324 system), N:81 Cervical cancer Centuries [book by Nostradamus] Cerebral cortex Cancer (Kinds of cancer), C:119 Nostradamus, N:304 Allergy (Emotional factors), A:274 Cervical cap Centurion Brain (The cerebrum), B:511 with pic-Birth control (Methods of birth con-Legion, L:155 ture 8:511; (The work of the brain) trol), B:368 Century of Louis the Great, The book B:514 Cervical vertebrae by Perraultl Concussion, Ci:273 Giraffe diagram on, G:165 Perrault, Charles, P:291 Dream (The biology of dreams), D:305 Skeleton, S:460 Century plant, C:324 with picture Memory, M:341 Cervix Aloe, A:281 Nervous system (The nervous system Reproduction, Human (Birth), R:229

in other animals), N:85

Cerebral haemorrhage, C:327

Toxaemia of pregnancy, T:320

Stroke (Causes), So:358

Cerebral hemisphere

Taste, T:66

with pictures

Cesalpino, Andrea (Italian anatomist

Heart (Discovery of circulation), H:111

Uterus, U:287

Vagina, V:299

Cesium

Spider (The spider's body), So:218

See Caesium Cessnock [Australial, C:330 Cestuses (boxing)

Boxing (History), B:498

Cetacean (sea mammal), C:330

Dolphin, D:250 River dolphin, R:292

Whale, W:206 with pictures

Cetshwayo [Zulu leader], C:330

Anglo-Zulu War, A:372 Natal, N:28

Cevion

Sri Lanka, S:254

Cézanne, Paul (French painter), C:331

Braque, Georges, B:523

Impressionism (Postimpressionism),

Painting (Postimpressionism), P:78; (Cubism) P:79

Cf [symbol]

Californium, C:40

Environmental pollution (Kinds of environmental pollution), E:303 with diagram; (Government action)

E305

Cha-cha

Latin America (Dancing), L:86

Chacma [baboon] Baboon, B:3

Chaco

Gran Chaco, G:291

Paraguay, P:164

Chaco War

Bolivia (Territorial losses), B:430 Paraguay (Military ruin), P:166

Chacoan peccary Peccary, P:240 Chaconne [music]

Counterpoint, Cl:392

Chad Basin

Nigeria, N:210

Chad, C:331 with pictures and map

Flag picture on, F:200 N'Djamena, N:63

Chadm

Iran (Clothing), I:335 with picture Chadri [clothing]

Afghanistan (Way of life), A:111

Chadwick, Lynn Russell British sculptorl, C:334

Chadwick, Sir Edwin (British social reformer], C:334

Chadwick, Sir James [British physicist],

Atom (Studying the nucleus), A:730 Harkins, William Draper, H:61

Neutron, N:105

Nuclear energy (The first artificially created fission reaction), N:329 Physics (Uncovering the secrets of the

atom), P:478 Chaetognatha

Animal (A classification of the animal kingdom), **A:414**

Oats (Harvesting oats), O:377 Chaffey, George [Canadian engineer], C:335

Chaffey, William [Canadian businessmanl. C:335

Chaffinch, C:335

Chagall, Marc [Russian-born artist], C:335 with portrait

Painting (People), P:32 with picture Stained glass (Decline and revival), 50:265

Chagas' disease

Trypanosome, T:429

Chagga [people]

Tanzania (Population and ancestry),

Chagres River, C:335

Panama Canal (Gatun Lake), P:122 with

Chaguaramas, Treaty of [1973] CARICOM, C:199

Chalkovsky, Peter Hich

See Tchaikovsky, Peter Ilich

Chain [links], C:335

Chain [measurement], C:336

Chain dance

Dancing (Folk dancing), D:23 picture on D:26

Chain mail

Armour (During the Middle Ages), A:582

Gauntlet, G:63

Chain migration

Immigration (1945-1960. Easing of immigration rules), 1:37

Chain of evidence

Police laboratory (How evidence is handled), P:644

Chain of title [law]

Title, T:267

Chain pickerel

Pickerel, P:487 with picture

Chain reaction

Fission, F:195

Nuclear energy (Nuclear fission),

N:321; N:325

Nuclear reactor (The core), N:332 Nuclear weapon (Fission weapons),

Uranium (Radioactivity and fissionability), U:273

Chain stitch

Crocheting, Ck447 with picture Embroidery (Embroidery stitches), E:227 with picture

Chain store, C:336

Retailing, R:244

Chain, Sir Ernst Borls | British biochemist]. C:336

Antibiotic (History), A:458 Penicillin (History), P:259

Chainbearer, The book by Cooperl Cooper, James Fenimore, Ci:336

Chair

Art and the arts picture on, A:602 Eames, Charles, E:6

Furniture, F:493; pictures on F:493, F:494, F:495, F:501, F:506, F:507

Chairll Anwar, C:336

Chakri, Phyra [king of Siam] Thailand (A new dynasty), T:184

Chalaza

Egg (The white), E:98 with diagram Chalazion

Eye (Diseases of the eye), E:441 with picture

Chaicedon, Council of [A.D. 451]

Copts, Ci:345

Roman Catholic Church (The recognition of Christianity), R:338

Chalcedony [mineral], C:336 Agate, A:155 with picture

Cameo. C:54

Flint. F:228

lasper, J:67

Onyx, 0:453

Sardonyx, S:91

Chalcocite (mineral), C:337

Chalcophile

Geochemistry, G:86

Chalcopyrite (ore), C:337

Copper (Copper ores), Cl:341 Mineral picture on, M:484

Chaidea [Ancient Babylonia], C:337 with map

Chaldon (England)

Surrey (Places to visit), So:444

Challapin, Feodor Ivanovich (Russian singerl, C:337

Chalk, C:337 with picture

Drawing picture on, D:303; (Materials and techniques) D:304

Chaik upland

Wiltshire (Land regions), W:266

Challenger (space shuttle)

Astronaut (table), A:683 Disaster (Accidents), D:188

National Aeronautics and Space Administration (NASA), N:30

Space exploration, So:128; (The shuttle era begins) So:158 with picture;

(The Challenger disaster) So:160 with picture

Challenger Deep oceanographyl Pacific Ocean (The ocean floor), P:14; (Exploration) 15

Challenger (ship)

Exploration (Deep-sea exploration), F:428

Pacific Ocean (Exploration), P:15

Western Australia (European colonization), W:182

Chaimers, Thomas (Scottish preacher), C:338 with portrait

Chama Cha Mapinduzi (CCM)

Tanzania (Government), T:31 Chamber [anatomy]

Heart, H:102 with diagram; (Hearts of animals) H:113 with diagram

Chamber music, C:338

Classical music, Cl:56 with pictures; (The classical period) with picture,

Chamber of commerce, C:338

Chamber orchestra

Orchestra (The structure of a symphony orchestra), 0:488

Chambered nautilus

Nautilus, N:51 with picture Chamberlain Case, C:338

Chamberialn, Joseph British politi-

cian). C:338 Chamberlain, Neville [British politicianl, C:338 with picture Churchill, Sir Winston (World War 11 begins), C:508 Munich Agreement (Background), M:702

World War II (The failure of appeasement), W:382

Chamberlain, Sir Austen British politician], C:338

Chamberlain, Wilt [basketball player], Chamberlin, Thomas (American geolo-

Earth (The birth of the solar system),

Chambers, Ephraim [English encyclopedisti, C:339

Encyclopedia (An age of experiment), E:240

Chambers, George, C:339 Chambers, Robert (Scottish author),

Chambers, Whittaker (American pubitc figurel

Hiss, Alger, H:222

Chambers, William [Scottish author], C:339

Chameleon, C:339 with picture Animal (Interesting facts about animals), A:377; (Camouflage) A:401 Lizard (Defences), L:340

Chaminade, Cecile Louise Stephanie, C:340

Chamois [animal], C:340 with picture Leather (Kinds of leather), L:141 Chamomile

See Camomile

Chamorro, Violeta Barrios de INicaraguan political leaderl, C:341 Nicaragua (Recent developments), N:197

President (Women as presidents), P:769

Guam (People), G:391 Mariana Islands, M:204

Chamorros [people]

Champagne [wine], C:341 Champagne Castle (South Africa)

South Africa (The Plateau), So:62 **Champaner** [fortress]

Gujarat (Places to visit), G:422 Champion of the Seas [ship]

Clipper ship, Ci:84

Champlain, Samuel de French explorerl, C:341 Canada, History of (The development

of New France). C:98 Exploration (The French in America),

E:423; with map; (table) E:424 Monts, Sieur de, M:581

New France (Exploration and settle-

ment), N:112

Champlevé [art]

Enamel (Decorative enamelling techniques), E:234

Champollion, Jean François (French scholari

Hieroglyphics (Deciphering hieroglyphic writing), H:195 Rosetta stone, R:401

Champs Élysées

Paris (Gardens, squares, and parks),

Chan, Sir Julius iprime minister of Papua New Guineal, C:341 Chance music

Aleatory music, A:241

Chance Peak

Montserrat (Land), M:581

Chancel

Cathedral (The Latin cross ground plan), C:262 with diagram

Chancellor [title], C:341

President (Nonexecutive presidents), P:766

Chancellor of the Exchequer

Exchequer, E:414

Chancellor, Richard (English explorer), C:341

Chancellorsville, Battle of American Civil War, A:307

Chanchan

Peru (History), P:315

Chandigarh (city), C:342 Punjab (Places to visit), P:860

Chandigarh [Union Territory], C:341

Chandler Circle North Pole, N:261

Chandler, Raymond (American author), C:342

American literature (Realist fiction), A:318

Chandor, Douglas Granville (British artistl. C:342

Chandragupta Maurya lemperor of Indial, C:342 Bihar (History), B:289

Gupta dynasty (Rise and fall of the dynasty), G:430

Chandrasekhar, Subrahmanyan American astrophysicistl, C:342 Nobel Prizes (Physics), N:228

Chang Liang

Yangtze River, Y:439

Changamire Empire (African history) Africa (Eastern, central, and southern kingdoms), A:150

Zimbabwe (History), Z:496

Changdok Palace

Seoul (The city), S:258 Change

Metaphysics, M:379

Change of life

Menopause, M:348

Change of Skin (book by Fuentes) Fuentes, Carlos, F:480

Changeling

Fairy (Fairies and human beings), F:10 Changi [Singapore Island], C:343

Changing Light at Sandover, The [poetry by Merrill]

American literature (Poetry), A:319 Changsha (China), C:343

Channel [electronics]

Radio (Radio terms), R:73 Television (Cable television), T:120 Channel [geography]

letty, **j:108**

River (The channel of a river), R:289

Strait, So:343

Channel Country, C:343 Queensland, Q:21 with picture

Channel Islands, C:343 with maps

Europe (table), E:359

Guernsey, G:403 Jersey, J:86

Sark, S:93 with picture Channel rockfish

Fish picture on, F:164

Channel swimming, C:345 with picture Channel Tunnel, C:345

Tunnel picture on, T:444

United Kingdom (Transportation), USA

Channelling machine

Marble (Properties), M:197

Quarrying (Channelling by machinery), 0:8

Channing, William Ellery [American religious leader), C:346

Chant of Jimmy Blacksmith, The [book by Keneally]

Keneally, Thomas, K:215

Chantries, C:346

Chanukah

Hanukkah, H:57

Chanute, Octave [American inventor].

Aeroplane (First manned flights), A:76 Chao Tzu-yang

Zhao Ziyang, Z:492

Chaos Isciencel, C:346 Chaparral, C:346

Chaparral cock

Roadrunner, R:299

Chapatti

Bread (Flat bread), B:548 India (Food), 1:65

Pakistan (Food), P:95 Chapbook (pamphlet), C:347

Storytelling (The Middle Ages), So:340 Chapel Royal, C:347 with picture

Chaperon

Clothing (The Renaissance), Cl:102 Chapeton dam

Dam (table), D:13

Chaplain, C:347

Chaplin, Charlie [British actor], C:347 with pictures

Film industry picture on, F:80 Sennett, Mack picture on, S:255

Chapman, George (English poet), C246

Chapman, John Appleseed, Johnny, A:479

Chapman, John [Norfolk legend] Norfolk (People and government), N:239

Chappe, Claude [French inventor] Communication (The 1600's and 1700's), Ci:231 with picture Telegraph (Development of the tele

graph), T:102 Chappell, Gregory Stephen [Australian

cricketer). C:348 Chappell, Ian Michael (Australian criok eterl, C:34B

Chappell, Trevor Martin [Australian Charge (furnace) Germany (The breakup of Charlemagne's empire), G:130 cricketerl, C:348 Electric furnace, E:145 Iron and steel (Running a blast fur-Holy Roman Empire, H:251 Chapter Cathedral (Organization of a Cathenace), 1:390 with diagram; (The Italy (The Middle Ages), I:466 basic oxygen process) 1:392; (The Leo III, Saint, L:175 dral), C:260 Chapultepec, Battle of [1847] electric furnace process) 1:393 Lombards, L:364 Mother Goose (Who was Mother Mexican War, M:396 Charge [heraldry] Mexico (War with Texas and the Heraldry (Elements of a coat of arms), Goose?), M:644 H:160 United States), M:420 Roman Catholic Church, R:340 Charge carriers Saxons, S:117 Characin Electronics (Terms used in electron-Sculpture (Medieval sculpture), S:208 Tetra, T:165 ics), E:185 Tithe, T:265 Character [literature] Drama (The structure of drama), D:285 Charge-coupled device (CCD) Charlerol [Belgium], C:350 Charles I [emperor of Austria], C:352 Theatre (Creating a role), T:196 Astronomy (Optical telescopes), A:693 Camera (Electronic cameras), C:58 Charles I [king of England], C:350 with Character [writing] Telescope (Recording images pro-China (Languages), C:440 duced by optical telescopes), Berwick, Treaty of, B:261 Chinese language (Written Chinese), Buckingham, Duke of, B:608 C:467 with pictures Video camera (How video cameras Civil War, English, Cl:43 Japanese language, J:62 with picture work), V:368 with diagram Cromwell, Oliver (Rise to power), Character doll Ci:451 Charge of the Light Brigade, The Doll (The early 1900's), D:247 Divine right of kings, D:206 [poem by Tennyson] Character generator England (The first Stuarts), E:278 with Balaklava, Battle of, B:34 Television, T:131 picture; (The Civil War) C:278 Tennyson, Lord (His poems), T:150 Character piece Hampden, John, H:33 Classical music (Solo music), Ch56 Charged particle James I, J:20 Electricity (Kinds of electricity), E:166 Characteristic London (War, plague, and fire), L:373 picture on E:167 Logarithms (Common logarithms), Long Parliament, L:378 Charlot (vehicle), C:349 L:361 Parliament (Parliament gains strength), Soil, So:21 Army (Ancient armies), A:592 Characteristic X ray Byzantine Empire picture on, B:701 P:192 Petition of Right, P:327 Egypt, Ancient (Trade and transporta-X rays (How X rays are produced), Rump Parliament, R:457 X:431 tion), E:126 Scotland, History of (The combined Hittites (Way of life), H:232 Characters kingdoms), S:172 Transportation (Early development of Literature (The elements of literature), Charles I lking of France), C:351 wheeled vehicles), T:350 Germany (The break-up of Charle-Characters of Shakespeare's Plays **Chariot races** Rome, Ancient (Recreation), R:374 magne's empire), G:130 lessay by Hazlittl Charles I [king of Spain] Charioteer of Delphi [sculpture] Essay, E:330 Sculpture (Movement), S:191 with pic-Charles V (Holy Roman emperor), Hazlitt, William, H:92 ture; (Classical sculpture) \$:206 C:352 Characters of Theophrastus..., The Charles II (king of England), C:351 Charioteer, The |constellation| [book by La Bruyère] Bahamas [History], B:30 French literature (Classical prose), Auriga, A:747 Cabal, C:2 **Charismatic Christianity** F:447 Cabinet, C:3 La Bruyère, Jean de, L:6 Religion (Religion today), R:205 with Civil War, English, Cl:43 Charcoal, C:348 picture England (The Restoration), E:279 Barbecue, B:105 Charismatic renewal [religion] Gwyn, Nell, G:437 Carbon (Forms of carbon), C:188 Pentecostal churches, P:268 Hobbes, Thomas (His life), H:235 Drawing (Materials and techniques), Charity, Sisters of Horse racing (History), H:308 See Sisters of Charity D:304; picture on D:305 Monmouth, Duke of, M:567 Industrial Revolution (Early Ironmak-**Charity Organization Society** Oates, Titus, 0:376 Social work (History), So:8 ing), I:213 Restoration, R:242 Space exploration (Breathing), So:137 Charity school Rve House Plot, R:509 Charcot, Jean Martin French neurolo-United Kingdom, Educational systems Scotland, History of (The combined of the (History), U:102 gist kingdoms), S:172 Freud, Sigmund (His life), F:457 Charivari Charles II [king of France], C:351 Hypnotism (Scientific studies), H:415 Folklore (Superstitions and customs), Vikings (The Danish Vikings), V:392 Unconscious, U:21 Charles III [king of France], C:351 Chardin, Jean Baptiste Siméon Charlecote Park (England) Normans, N:245 Warwickshire (Places to visit), W:49 [French painter], C:349 with portrait Charles III (king of Spain), C:353 Fragonard, Jean Honoré, F:390 Charlemagne (Holy Roman emperor), Bourbon (In Naples), B:488 Chardonnet, Hilaire [French inventor], C:349 with picture Mexico (Spanish rule), M:418 C:349 Austria (Early years), A:865 Paraguay (The Jesuits), P:166 Clothing (Manufactured materials), Belgium (History), B:221 Charles IV (Holy Roman emperor), Christianity (The Middle Ages), C:485 Cl:106 Rayon (History), R:148 C:352 Croatia (History), Ci:446 Textile industry (The age of modern Bohemia, B:420 Europe (The Middle Ages), E:385 Czech Republic (The rise of Bohemia), France (The Carolingian dynasty), F:411

with picture

Franks, F:427

CE520

Czechoslovakia (The rise of Bohemia),

textiles), T:176 Charentais melon

Melon (Types of melon), M:338

Charles IV Cl:523 Luxembourg (History), L:422 Prague, P:736 Sigismund, \$:414 Charles IV [king of France], C:351 Charles IX [king of France], C:352 Charles Martel [Frankish ruler], C:354 France (The Carolingian dynasty), F:411 Middle Ages (The Carolingian Empire), Charm Charles Robert [king of Hungary] Hungary (The kingdom of Hungary), H:381 Charles the Great Charlemagne, C:349 **Charles University** Czech Republic (Education), Cl:518; (The rise of Bohemia) Cl:520 Charles V (Holy Roman emperor), C:352 Holy Roman Empire (The House of Habsburg), H:252 Netherlands (Unification), N:98 Charles V [king of France], C:351 Charles VI (Holy Roman emperor), Pragmatic sanction, P:735 Charles VI [king of France], C:351 Charles VII [Holy Roman emperor], Charles VII (king of France), C:351 Joan of Arc, Saint, J:121 Charles VIII (king of France), C:352 Charles X (king of France), C:352 Algeria (French rule), A:265 July Revolution, J:164 Charles X [king of Sweden], C:352 Charles XI lking of Swedenl, C:352 Charles XII [king of Sweden], C:352 Charles XIV [king of Sweden], C:352 Charles, Dame Eugenia Dominican prime minister) Dominica (History), D:257 Charles, Jacques Alexandre (French chemist Balloon (The hydrogen balloon), B:63 Gas (Charles's law), G:58 with picture Charles, Prince (Prince of Wales), C:353 with portrait Elizabeth II (The royal family), E:214 Royal Family of the United Kingdom, R:423; (The new Elizabethan Age) R:426; (The Royal Family in the 1990's) R:426 See also Prince of Wales Charles, Ray [American singer], C:353 with portrait Charles, Thomas [Weish clergyman], C:353 Charles's law Gas (Gas laws), G:58 with picture Charleston [U.S.A.], C:354 Charleston, Battle of American Revolution, A:328 Charlotte Amalie (Virgin Islands), C:354 Charlotte [U.S.A.] Chasuble North Carolina picture on, N:260 Charlotte (ship)

First Fleet, F:148

Charlotte's Web [book by White]

tecture), A:527 with picture White, E. B., W:231 Chariton, Bobby [English footballer] Château of Fontainebleau Architecture picture on, A:527 Charlton, C:354 Charlton, Boy [Australian swimmer], Château Queyras C:354 Castle picture on, C:235 Chateaubriand, François -René de Chariton, Eddie | Australian snooker playerl, C:354 [French author], C:357 French literature (Romanticism), F:448 Charlton, Jackie (English footballer) Chateaubriand and His Literary Cir-Charlton, C:354 cle lbook by Sainte-Beuvel Amulet, A:345 Sainte-Beuve, Charles Augustin, \$:47 Magic (Elements of magic), M:45 Châtelet, Marquise du French mathematician), C:357 Charnwood llocal government district, Englandl, C:354 Voltaire (Exile and return to France). **Charnwood Forest** [England] V:424 Leicestershire (Places to visit), L:159 Chatham Charolais Kent (Local government), K:219 See Cattle (Beef cattle) Chatham Islands, C:357 Charon (Greek mythology), C:354 Chatham, Earl of Hades, H:4 Pitt (William Pitt), P:525 Styx, So:367 Chatsworth House [England] Charoux, Siegiried Joseph [Austro-Derbyshire (Places to visit), D:127 British sculptorl, C:355 Stately homes, So:297 with picture Charro (clothing) Chattanooga [U.S.A.], C:357 Mexico (Clothing), M:406 Chattanooga, Battle of Chart, C:355 American Civil War, A:307 Navigation, N:51 Chatterjee, Upamanyu (Indian writer) Charter, C:355 India, Literature of (Contemporary Constitution, Ch:308 trends), 1:129 Magna Carta, M:49 with picture Chatteriee, Bankin Chandra Indian Charter airline writer] Airline (Kinds of airlines), A:207 India, Literature of (The birth of nation Charter Oak, C:355 alism), 1:128 **Charter of Privileges** Chatterton, Thomas English poetl, Penn, William (Arrested again), P:261 C:358 Charter of the United Nations Chaucer and His England book by United Nations (UN), U:160 Coulton Charterhouse (English school), C:355 Coulton, G. G., Cl:391 Surrey picture on, So:444 Chaucer, Geoffrey [English poet], C358 Chartism, C:355 with picture Chartist movement Caxton, William, C:288 Chartism, C:355 England (The Hundred Years' War), O'Connor, Feargus, 0:405 E:276 Chartres (France), C:355 with picture Foiklore (Folklore and the arts), F:290 **Chartres Cathedral** Canterbury Tales, C:132 with picture Chartres, C:355 with picture Scottish literature (1300-1500), S:176 Sculpture (As a record of history), Short story, S:393 S:186 with picture; (The peak of Valentine, Saint, V:301 architectural sculpture) \$:209 Chauncy, Nan [Australian author], C:359 Chartres cathedral Chauvel, Charles (Australian film pro-Cathedral (Cathedral finances), C:261 ducer], C:359 Charybdis Chauvel, Sir Harry (Australian soldier) Scylla, **\$:220** C:358 Chase Manhattan Bank, C:356 Chauvinism Chase, Martha [American biologist] Patriotism, P:218 Research (Collecting evidence), R:236 Chávez, Carlos [Mexican composer], Chase, Salmon Portland (American C:359 statesmanl, C:356 with portrait Chavin [people] Chase, Samuel (American judgel, C:356 Sculpture (Indian sculpture of the Chase, William Merritt [American Americas), S:205 with picture painterl, C:356 with picture Chayote, C:359 with picture Chastisements, The [work by Hugo] Checkering Hugo, Victor Marie (Exile and return). Rifle (The parts of a rifle), R:274 H:343; (His works) H:344 Checkers igame! See Draughts Pope picture on, P:675 Checkmate Chat [bird], C:357 with picture Chess, C:382 Château, C:357 Checkmate music by Blissl Architecture (Later Renaissance archi-Bliss, Sir Arthur, B:390

Cheddar [England], C:359 with picture chemistry), C:366 Karl-Marx-Stadt, K:195 Somerset (Places to visit), So:38 Chemical control Chemoreceptor Insect, 1:247 Hunger, H:384 Chedworth [England] Gloucestershire (Places to visit), G:213 Weed (Weed control), W:131 Respiration (Control of breathing), Cheese, C:360 with pictures Chemical culture R:240 Air conditioning (In business and In-Hydroponics, H:408 Chemical decomposition dustry), A:190 Soil (Kinds of parent material), So:20 5:496 Casein, C:225 Chemical defence Cattle (Brown Swiss), C:275 Animal, A:404; (Home ranges) A:409 Dairving, D:6 Genetic engineering (In industry), G:81 with picture Chemical element Goat (Products), G:221 Atom, A:724 Netherlands picture on, N:97 Element, Chemical, E:195 Nutrition (Kinds of nutrients), N:363; Human body, H:350 (Basic food groups) N:365 with Chemical energy picture Energy (Forms of energy), E:245; Cheetah, C:362 with picture Cheever, John [American writer], C:363 (Chemical energy) E:246 American literature (Fiction and other Energy supply, E:249 Ch'en jung prose), A:320 Chemical engineering Chekhov, Anton [Russian playwright], Engineering, E:255 with picture Chemical equation C:363 Chemical reaction, C:365 Drama (Russian drama and Chekhov), Chemical equilibrium D:298 See Equilibrium, Chemical Realism (In drama), R:160 Chemical equivalent Russian literature (Late realism), R:499 Electrolysis (Laws of electrolysis), Short story, S:393 Theatre picture on, T:207 F:175 Chemical evolution Chelation therapy, C:363 Life (Modern theories), L:249 Chelmsford llocal government districtl, Cheops Chemical fuel Essex (Local government), E:332 Fuel, F:478 Chelsea Chemical industry, C:365 See Kensington and Chelsea. Chemistry, C:372 Cheisea Pensioners, C:364 Chemical mace Cheltenham [England], C:364 with pic-Mace, M:7 Chemical machining Machine tool, M:17 Gloucestershire (Places to visit), G:213 Chemical, C:364 Chemical products Agriculture (New agricultural chemi-Forest products, F:354 Chemical reaction, C:365 cals), A:175 Electricity (Effects of electricity), E:170 Cancer, C:121 Forest (The cycling of chemicals), with picture Heat, H:116 Plant (Control of diseases and pests), Chemical sediment Rock, R:308 P:569 portrait Police laboratory (Analysing the evi-Chemical treatment dence), P:644 Petroleum, P:350 Water pollution (Agricultural chemi-Chemical warfare Chemical-biological-radiological warcals and wastes), W:89 Chemical-biological-radiological fare, C:364 warfare, C:364 Chemical weathering N:331 World War I (Trench warfare), W:367 Earth (How the earth changes), E:21 Chemisorption [physics] with picture Chemical bomb Absorption and adsorption (Adsorp-Bomb (Other conventional bombs), tion), A:16 Chemistry, C:366 with pictures B:435 Chemical bond See also list of Related Articles Chemistry (Fundamental ideas of Analytical chemistry, A:349 Brain (The chemistry of the brain), chemistry), C:366 Mineral, M:487 Chemical change Nobel Prizes (Nobel Prizes for chemis-Chemistry, C:366 try), N:228 Electrochemistry, E:174 Plastics (The chemistry of plastics), Cherokee Indian, American (Hunting and fish-Matter (Chemical properties), M:263 ing), 1:139 (Indians of the South-Oxidation, O:535 Rubber (The chemistry of rubber), east) I:153 Senses (Internal senses), S:255

R:438

Science, S:140

Chemnitz [Germany], C:374

Chemical compound

Chemistry (Fundamental ideas of

Senses (Internal senses), S:255 Smell (How odours are detected), Chemosterilant Insecticide, 1:263 Chemotherapy, C:374 Cancer (Drug therapy), C:122 Drug (Antitumour drugs), D:314; (The drug revolution) D:318 Ehrlich, Paul, E:130 Leukaemia (Acute leukaemia), L:195 Medicine (The medical revolution), Chemurgy, C:374 See Chen Rong Chen Rong [Chinese painter], C:374 Cheney, Richard Bruce [American statesmanl, C:374 Chengdu (China), C:374 Chenille (textile), C:374 Chennault, Claire Lee (American aviatorl, C:375 with portrait Cheongsam [clothing] Malaysia (Clothing), M:86 Khufu, K:243 Chepstow [Wales] Gwent (Places to visit), G:437 Cheque (money), C:375 Traveller's cheque, T:368 Chequers [England], C:375 with picture Cherbourg [France], C:376 Chéret, Jules (French artist) Poster, P:717 Chéri [book by Colette] Colette, Ci:162 Cherimova [tree], C:376 with picture Custard apple, Ci:505 Chernenko, Konstantin Ustinovich Russian political leader), C:376 with Gorbachev, Mikhail Sergeyevich (Early life and political rise), G:257 Chernobyl nuclear power plant Belarus (Soviet rule), B:210 Nuclear energy (Safety concerns), Nuclear reactor (Reactors and the environment), N:334 Reindeer, R:190 Ukraine (The Chemobyl disaster), U:13 Chernobyl nuclear power plant Fallout (History), F:18; map on F:17 Chernozem [soil] Armenia (Economy), A:580 Prairie (Climate and soil), P:737 Russia (Land regions), R:475

Sequoyah, S:265

Cherry, C:377 with picture

fleet). A:205

Chesterfield (England), C:385

See also list of Related Articles Derbyshire (Places to visit), D:127 Chiang Mai[Thailand], C:389 Chiang Soong Mel-ling [Chinese social Wood picture on. W:299 Chesterfield, Earl of English political leader], C:389 with portrait figurel, C:385 with portrait Cherry birch Chiang Kai-shek (Nationalist victory) Birch (Dwarf birch), B:314 Etiquette (Etiquette today), E:344 **Cherry Blossom Festival** Chesterton, G. K. (English author), C:389 Chiang Wei-chi [Chinese writer] Washington, D.C. (The National Mall), W:56 Detective story (The pattern), D:136 Ding Ling, D:173 Cherry cough medicine Chestnut [tree], C:385 with picture Chiapas Highlands Bark (How people use bark), B:111 Nut (Uses of nuts), N:359; (Kinds of Mexico, M:412 Cherry laurel, C:378 with picture nuts) N:359 Chicago [U.S.A.], C:390 with pictures Laurel, L:105 Plant (Plant enemies), P:567 and maps Cherry Orchard, The [play by Chekhov] Tree pictures on, T:385 Fort Dearborn, F:364 with picture Chekhov, Anton, C:363 Chestnut blight idiseasel Chicago School [literature] Drama (Russian drama and Chekhov). Chestnut, C:385 Sandburg, Carl, S:71 D:298 Fungicide, F:487 Chicago, Judy |American artist| Sculpture (As a record of history), Realism (In drama), R:160 Plant (Plant enemies), P:567 Russian literature (Late realism), R:499 Chetham's Hospital S:186; (Environmental sculpture) Theatre picture on, T:207 Manchester (Places to visit), M:144 S:218; picture on S:188 Cherry picker Chetniks (Serbian nationalists) "Chicago" [poetry by Sandburg] Fruit picture on, F:474 Tito, Josip Broz, T:267 Sandburg, Carl (His poetry), \$:72 Cherry salmon Yugoslavia (World War II), Y:474 Chicha [drink] Salmon (Kinds of salmon), S:53 with Chetty, Krishnamona [Indian writer] Indian, American (Food), I:139 picture India, Literature of (The birth of nation-Chichele, Henry (English churchman), Chert alism), 1:128 Flint, F:228 Chevalier, Maurice [French actor], Chichén Itzá [ancient city] Taconite, T:5 C:386 Maya (The Postclassic Period), M:280 Cherubini, Luigi [Italian-born com-Cheviot Hills, C:386 Chichester [England], C:394 with picposeri, C:378 United Kingdom (The Southern Up-Bell (Uses of bells), B:227 lands), U:55 Sussex (Places to visit), So:449 Chervenkov, Vulko [Bulgarian political Chevon (food) Chichester-Clark, James Dawson Goat (Products), G:221 Moyola, Lord, M:678 Bulgaria (Communist rule), B:638 Chevrolet, Louis [American engineer], Chichester, Sir Francis (English adven-Chervil C:387 turer]. C:394 Sweet cicely, So:476 Chevron, C:387 Chichishima (islands, Japan) Cherwell [England], C:378 Chevrotain (animal) Bonin Islands, B:449 Cherwell, Lord (British physicisti, C:378 Animal picture on, A:389 Chick Chesapeake Bay, C:378 with map, N:60 Chevy Chase [battle], C:387 Bird (Laying and hatching eggs), B:346 Chesapeake Bay retriever, C:379 with Chewing Chicken (The chicken industry), C:398 picture Teeth, T:90 with pictures Chesapeake [ship] Chewing gum, C:387 Penguin (Habits), P:258 with pictures Jefferson, Thomas (Second administra-Chicle, C:401 Chickadee, C:394 tion). 1:80 Gum, G:427 Chickamauga, Battle of Cheshire (England), C:379 with picture Cheyenne, The Isculpture by Reming-American Civil War, A:307 and map Chicken, C:395 with pictures See also list of Related Articles Sculpture (American sculpture), S:214 See also list of Related Articles Arms picture on, A:585 Embryo (How a chicken embryo develwith picture Cheshire, Leonard (British pilot), C:381 Cheyenne [U.S.A.], C:388 ops). E:227 with pictures Chesil Bank Cheyenne Indians, C:388 Poultry, P:726 Dorset picture on, D:269 Indian wars (The Sioux wars), 1:176 Chicken eaa Chesnutt, Charles Waddell | American Chiang Ch'ing Egg (Birds' eggs), E:97; diagram on writer], C:381 Jiang Qing, J:117 Chess, C:382 with pictures Chiang Ching-kuo (Chinese political Chicken louse linsect Game picture on, G:24 leaderl, C:388 Insect (table), I:262 Chest [anatomy], C:384 Taiwan (History), T:12 Chicken Soup with Barley play by Diaphragm, D:156 Chiang Kai-shek [Chinese political Weskerl Lung (Parts of the lungs), L:414 leaderl, C:389 with portrait Wesker, Arnold, W:154 Pleura, P:596 Asia (Way of life in East Asia), A:638; Chickenpox, C:400 Chest protector (The rise of the Japanese Empire) Disease (table), D:190; picture on Baseball (Equipment), B:125 with pic-A:659 ture Beijing (History), B:205 Herpesvirus, H:182 Chest wall Chiang Soong Mei-ling, C:389 Chickpea, C:401 with picture China (The war lord period), C:462; Respiration (External respiration), Chicle, C:401 R:239 (Nationalist rule) C:462 Chewing gum (History), C:388 Mao Zedong (His life), M:173 Chester (England), C:385 Gum, G:427 Chester-le-Street [Durham], C:385 Roosevelt, Franklin Delano (The Big Mexico (Plant and animal life), M:412 Chester W. Nimitz [ship] Three), R:390 Sapodilla, S:86 Aircraft carrier (The modern carrier Sun Yat-sen (His later efforts), So:422

Taiwan, T:9; (History) T:12

World War II (China), W:399

Chicory, C:401

Chicxulub Basin [Mexicol

Meteorology (Impact craters and ba-

Pied Piper of Hamelin, P:489 with pic-

Children's Hour, The [play by Hellman]

American literature (Drama), A:318

ture

Children's home, C:413

Heliman, Lillian, H:145

Children's laws, C:413

sins) with map, M:381 Child of Our Time, A [music by Tippett] Chidambaram [India] Tippett, Sir Michael, T:262 Tamil Nadu (Places to visit), T:22 Child psychology Chiddingfold Church [England] Developmental psychology, D:144 Surrey (Places to visit), So:444 Personality (Personality development), Chief Indian, American (Tribes), 1:140 Piaget, Jean, P:482 Child, Joan Australian Labor Party poli-Pacific Islands (Villages), P:6 ticianl. C:409 Chief commissioner Police (Police around the world), P:641 Childbirth, C:411 Uterus, U:287 Chief constable Childe Harold's Pilgrimage ipoetry by Police (Police around the world), P:641 Chief engineer Byron, Lord (Byron's life), B:695; Ship (Officers and crew), S:382 (Byron's poetry) B:696 Chief executive Childe, Gordon Australian-born ar-President of the United States, P:769 Chifley, Ben [Australian statesman], chaeologistl, C:412 Childers, Erskine Hamilton (Irish poli-C:401 with portrait Chigger (pest), C:402 with picture tician) Mite, M:519 Childers, C:412 Childers, Robert Erskine Irish politi-Chignon Hairdressing (The Renaissance), H:12 Childers, C:412 Chigoe Childhood |book by Tolstoy| Chigger, C:402 Tolstoy, Leo (Early life and works), Flea, F:224 T:289 Chihuahua [dog], C:402 with picture Dog picture on, D:223 Childminder Day care (Types of day care for chil-Chihuahua [Mexico], C:402 Chikamatsu Monzaemon [japanese dren), D:51 Children, The [book by Marshall] playwrightl Marshall, James Vance, M:226 Japanese literature (The Tokugawa period), J:64 Children Chilblain, C:402 See Child Child, C:403 with pictures Children in care, C:412 See also list of Related Articles "Children of Adam" Ipoem by Whit-AIDS (Discrimination), A:181 Children in care, C:412 with pictures Whitman, Walt (His work), W:239 Children of Gebalani lbook by Mah-Children's home, C:413 Culture (Learning), Ci:491 four Diet (Special diets), D:170 Mahfouz, Naguib, M:68 Children of Heracles, The iplay by Eu-Gifted children, G:156 Hyperactivity, H:411 ripides Imagination, 1:34 Euripides, E:354 Indian, American (Family life), 1:138 Children of Paradise [film] Language, L:49 Barrault, Jean-Louis, B:118 Children of the Dark People (book by Marriage, M:217 Papua New Guinea, P:146 Davison! Parent (The role of parents), P:173 Davison, Frank Dalby, D:49 Playground, P:594 with picture Children of the North Lights (work by Progeria, P:795 d'Aulaire Safety, S:9 with pictures D'Aujaire, D:43 United Nations (Ald to children), U:172 Children of the Poor, The book by Writing (Literature for children), Riis, Jacob August, R:277 W:422 Child abuse, C:409 Children of the Sun [book by West] Child labour (History of child abuse), West, Morris, W:155 Children of Violence, The book by Child and the Catechism, The book Lessingl by Conway! Lessing, Doris, L:187 Conway, William Cardinal, Ci:327 Children's Afternoon at Wargemont, Child benefit The [painting by Renoir] United Kingdom (Social welfare), U:52 Painting (People), P:32; picture on P:28 Child-care centre Renoir, Pierre Auguste, R:222 Nursery school, N:354 Children's court Child custody Australia, Legal system of (State Divorce (Divorce provisions), D:215 courts), A:828 Child labour, C:410 with picture Juvenile court, J:175 Industrial Revolution picture on, 1:216 Children's Crusade

Sweatshop, So:459

Children's Ilbrarian Library (Services for children), L:217 Children's magazine Magazine, M:40 with picture Children's Park Seoul picture on, S:259 Children's tomatoes Solanum, So:22 Child's Garden of Verses, A book by Stevensonl Stevenson, Robert Louis, So:321 Chile, C:414 with pictures and map Aviation (Aircraft nationality marks), Copper (Sources of copper), Cl:341 Earthquake (table), E:33 Flag picture on, F:202 Latin America (Border disputes), L:92 World War II (table: The Allies), W:381 Chile pine Tree (Needleleaf trees), T:374 Chile saltpetre Saltpetre, S:58 Sodium (Uses), So:16 Chilean clover Alfalfa (History), A:248 Chili pepper Pepper, P:268 with picture Chill, Wind Windchill, W:269 Chills and fever Fever, F:65 Malaria (Symptoms), M:78 Chiltern (England), C:427 Chiltern Hundreds (England), C:427 Buckinghamshire (History), B:610 Chiluba, Frederick (Zambian political leader) Zambia (History), Z:488 Chimaera Chimera, C:427 Fish, F:156 picture on F:155 Chimborazo, C:427 Andes Mountains (Physical features), A:354 Mountain (table), M:669 with diagram Chimbus [people], C:427 Chimera [Greek mythology], C:427 Chimera (book by Barth) American literature (Fiction and other prose), A:320 Chimères, Les [poetry by Nerval] Nerval, Gérard de, N:80 Chimes [percussion instrument], C:427 Bell (Chimes and carillons), B:226 with picture Orchestra bells, 0:489 Chimney swift Bird picture on, B:342 Chimpanzee, C:427 Ape picture on, A:470 Goodall, Jane, G:253 with picture Crusades, Ci:464

Porcelain (Oriental porcelain), P:689

Pottery (History), P:724

Chinese dolphin Chimpanzee Intelligence and Its Qin dynasty, Q:4 River dolphin, R:292 with picture Railway, R:105 Vocal Expressions lbook by Chinese egret [bird] Religion (Confucianism), R:202 with Yerkes] Egret, E:99 picture; (Taoism) R:203 with pic-Yerkes, Robert Mearns, Y:452 Chinese elm Ch'in dynasty ture Royal families (Asia), R:420 Elm, E:218 See Qin dynasty Chinese goose Chin Peng Iguerrilla leaderl, C:429 Russo-Japanese War, R:502 Goose, G:254 with picture Science (Early civilizations), S:143 China, C:430 with pictures and maps Chinese gooseberry Shang dynasty, S:329 See also list of Related Articles Kiwi fruit, K:295 with picture Song dynasty, So:41 Albania (History), A:230 Chinese Gordon Space exploration, So:161 Asia (Life in China), A:639 Taiwan (Government), T:10; (History) Gordon, Charles George, G:258 Aviation (Aircraft nationality marks), Chinese hibiscus T:12 Hibiscus, H:190 with picture Beijing, B:204 with pictures and maps Tang dynasty, T:25 Chinese jade Birth control (Birth control today), Theatre, T:202 lade, 1:9 with picture Tibet, T:236 with pictures Canal, C:111; picture on C:109 Chinese-Japanese wars, C:467 Village, V:393 Coal (History of the use of coal), Cl:132 Tojo, Hideki, T:276 Writing (Phonetics), W:423 Communism (China after Mao), Cl:243 China [porcelain] Chinese language, C:467 Alphabet (Chinese), A:284 Communism (Restrictions on personal See Porcelain Asia (The Huang He and Yangtze valfreedom), Ci:240; (World War II) China clay Cl:242 with picture Clay, Cl:70 leys), A:657 Communism (The decline of Commu-Kaolin, K:192 China (Languages), C:440 China doll English language, E:281 nism), Cl:243 Lin Yuhang, L:283 Confucianism, Cl:277 Doll. D:246 Conservation (Asia), Ci:302 China grass Name (Beginnings), N:10 Boehmeria, B:418 Chinese literature, C:469 Cotton (Leading cotton-producing See also list of Related Articles countries), Cl:384 Ramie, R:131 Decorations, medals, and orders, D:75 China poblana [clothing] I Ching, I:2 Mexico (Clothing), M:406 Chinese music Drama (Asian drama), D:296 Music, M:734 China Sea, C:465 with map Electric power (table), E:161 **Chinese Nationalist Party** Exploration (East-West contact), E:418 China syndrome Beijing (History), B:205 Family (Traditional families in other Nuclear energy (Hazards and safecultures). F:23 quards), N:326 Chinese navy China (The armed forces), C:438 Famine (Causes of famine), F:24 China-wood oil Navy (The world's major navies), N.58 Tung oil, T:440 Flag picture on, F:204 Furniture (Oriental furniture), F:495 Chinampa Chinese New Year New Year's Day, N:139 with picture with pictures Aztec (Agriculture), A:900 Great Wall of China, G:329 with pic-Chinatown Chinese peony Manchester (People), M:143; picture Peony, P:269 fune Han dynasty, H:37 with map On M:144 Chinese phllosophy Hong Kong (Relations with China), Chinch bug linsectl, C:466 with picture Philosophy (Oriental philosophy), Insect (table), I:262 P:422 Chinese restaurant syndrome Housing (Housing since 1900), H:330 Lawn picture on, L:119 Monosodium glutamate (MSG), M570 Invention, I:315 Chinchilla, C:466 with picture Iron and steel (In other countries), Animal picture on, A:382, A:383 Chinese rug E400 Rugs and carpets, R:452 Fur picture on, F:489 Chinchona Japan (Influence of Chinese culture), Chinese sculpture Sculpture, S:200 with picture; (Koreal See Cinchona Java (Conflict with the Chinese), J:70 Chindite S:201 Jewellery (Oriental Jewellery), J:110 Wingate, Orde Charles, W:275 Chinese secret societies Singapore (Piracy and crime), S:448 Kyrgyzstan (History), K:350 Wingate's Raiders, W:276 Lanzhou, L:57 Chinese Air Force Chinese soapberry Air force, A:197 Law (Other systems), L:112 Soapberry, So:1 Library, L:226 China (The armed forces), C:438 Chinese tallowtree Library (The East), L:232 Chinese alligator Tallowtree, T:17 MacArthur, Douglas, M:4 Alligator, A:275 Chinese Turkestan Martial arts, M:231 Chinese army Turkestan, T:453 Medicine, M:313 Army, A:592 Chinese water chestnut Water chestnut, W:85 with picture Nanjing, N:15 with picture China (The armed forces), C:438 Nixon, Richard Milhous, N:224 Chinese cabbage, C:466 Chinese wisteria Painting (Chinese painting), P:49 with Cabbage, C:2 Wisteria, W:280 Chinese calendar Chinese writing Perry (Matthew Calbraith Perry), P:290 Calendar, C:35 Alphabet, A:284 Chinese Communist Party Police, P:641 Chingford Polo, Marco, P:659 with picture and China (Government), C:437; (Modern Waltham Forest, W:29 China) C:461 with picture Chingis Khan

Mao Zedong (His life), M:173

Chinese crested dog, C:467

Genghis Khan, G:83

Chinlon

Burma (Recreation), B:657, 659 Insect (The bodies of insects), 1:248 Moth (The pupa), M:641 Chinoiserie Furniture (The rococo style), F:500 Chiton [clothing] Clothing (Ancient times) picture on, with picture Paperwork (Wallpaper), P:138 Ci:99 Greece, Ancient (Food, clothing, and Wallpaper, W:26 shelter), G:347 Chinook (weather) Tunic, T:440 Foehn, F:284 Chiton [sea anima]]. C:473 with picture Weather (Geographical features), Mollusc, M:536 with picture Chitty Chitty Bang Bang book by Wind (Local winds), W:268 Flemingl Chinook salmon Fleming, Ian Lancaster, F:225 Salmon (Kinds of salmon), S:53 with picture Chiu-lung Kowloon, K:333 Chip Watch (Electronic watches), W:66 Chivalry Knights and knighthood, K:300 Chip carving Woodcarving, W:303 Chive, C:474 with picture Choir Chlamydia, C:474 Chip Disease (Table), D:190 Electronics, E:184 Chiamydia trachomatis Chipmunk, C:470 with picture Chlamydia, C:474 Chipp, Don [Australian political leader] Trachoma, T:323 Choke Australia, History of (The Fraser gov-Chloracne iskin rashl emment), A:826 Dioxin, D:183 Chippendale furniture Chioral hydrate [drug] Chippendale, Thomas, C:471 Drug (Depressants), D:313 Furniture, F:503; picture on F:501 Chloramphenicol [antibiotic], C:474 Chippendale, Thomas (English furni-Medicine (The medical revolution), ture manufacturer and designer], M:317 Chippenham [England] Chloride, C:474 Wiltshire (Manufacturing), W:265 Hydrochloric acid, H:401 Chlorinated hydrocarbon insecticide Chippenham, Battle of [875] Insecticide (Types of insecticides), Alfred the Great, A:249 Chips with Everything [play by 1:263 Weskerl Chlorine [element], C:475 See also list of Related Articles Wesker, Arnold, W:154 Chirac, Jacques (French political Compound, Cl:250 leader], C:470 with picture Nutrition (Minerals), N:364 Scheele, Carl Wilhelm, S:124 Chirico, Glorgio de litalian painterl, C:471 with picture Chlorite Rock (Metamorphic rock), R:309 Painting (Surrealism), P:83 Chiromancy Chlormethiazole [drug] Palmistry, P:109 Drug (Depressants), D:313 Chiropody, C:472 Chlorofluorocarbon (CFC) Chiropractic, C:472 Environmental pollution (Air pollu-Chiropractor tion), E:301; (Kinds of environmental pollution) E:303 with diagram Chiropractic, C:472 Chisanbop, C:472 Fluorine, F:275 Fluorocarbon, F:275 Woodcarving, W:302 with picture Food, Frozen (Liquid-CFC freezing), Woodworking (Cutting), W:307 F:303 Chisel bill Ozone, O:542 Bird picture on, B:350 Chloroform, C:475 Chisholm Trail [American history], Water pollution (Effects), W:89 Cholla C:473 Chlorolabe [anatomy] Cowboy, Cl:409 Eye (Parts of the eye), E:437 Western frontier life, W:186 Cholos Chlorophyll, C:475 Chisholm, Caroline [Australian pio-Algae, A:250 neer), C:472 with portrait Botany (Pathology), B:479 Australia, History of (Families), A:805 Euglena, E:353

Evergreen, E:404

Photosynthesis, P:467

Leaf (The leaf changes colour), L:127

Plant (Leaves), P:554; (Photosynthesis)

Grass, G:301

P:562

Saprophyte, S:86

Tree (Leaves), T:378

Australia, Literature of (Early prose),

See Deer (Asian and European deer)

Chisinau (city, Moldoval, C:473

A:830

Moldova, M:528

Arthropod, A:607

Chital

Chloroplast, C:475 Algae (Other kinds of algae), A:250 Botany (Later developments), B:481; (table) B:481 Leaf (Photosynthesis), L:130 Photosynthesis, P:467 Plant (Photosynthesis), P:562 Tree (Leaves), T:378 Chlorpromazine (drug), C:476 Chocky ibook by Wyndhaml Wyndham, John, W:426 Chocolate, C:476 with pictures Cacao, C:8 Carob. C:206 Sweets, Sp:478 Choctaw (tribe) Indian, American (Indians of the Southeast), 1:153 Cathedral (The Latin cross ground plan), C:262 with diagram Choir school, C:477 Carburettor, C:190 Choke coil Inductance, I:205 Chokedamp [gas] Damp, D:18 Choking First aid, F:145 Chola Empire [India], C:477 Sculpture (India), S:197 Cholecystectomy Surgery (Some common surgical operations), So:438 Cholecystokinin [hormone] Gall bladder, G:15 Cholera [disease], C:478 Cholesterol, C:478 Arteriosclerosis (Prevention and treatment), A:605 Beef. B:193 Bile, B:292 Butter (Composition and food value), Egg (Uses of eggs), E:98 Fat (Fats and disease), F:33 Heart (Risk factors), H:104 Lipid (Kinds of lipids), L:302 Liver (Other functions), L:335 Margarine, M:203 Milk (Milk in the human diet), M:466 Nutrition (Nutrition guidelines), N:364; (Heart disease) N:367 Vegetarianism, V:324 Cactus (Kinds of cactuses), C:10 Bolivia (Way of life), B:426 Chomsky, Noam (American linguist), Communication (Linguistics), Cl:236 Linguistics (The generative theory of language), L:295 Chondodendron Curare, Cl:500 Chondrichthye Fish (A classification of fish), F:179 Chondrites [Meteorites]

Brain (Infectious diseases), B:517 Distemper, D:202 Huntington's disease, H:386 Rheumatic fever (Causes and symptoms), R:251

Ballet, B:52, B:47 Dancing (Modern dance), D:23 Musical comedy (Dancing), M:739 Opera (Rehearsing a production), O:462 Choreography

Choreographer

Ballet, B:47, B:52 Ice skating (Singles skating), 1:15 Choreography by George Balanchine: A Catalogue of Works [book by Balanchine] Balanchine, George, B:37

Chorion (biology) Embryo (Human development), E:227 Pregnancy diagram on, P:742

Charionic villus biopsy Genetic counselling, G:79 Chorley [England], C:481 Choroid [anatomy] Eye (Parts of the eye), E:435 Choroiditis

Eye (Diseases of the eye), E:441 Chorus

Drama (Greek drama), D:286 Opera (The singers), 0:458 Chorus Line, A Dancing picture on, D:23

Choson Korea (The Yi dynasty), K:328 Seoul, S:258 Chota Nagpur Plateau

Bihar (Land features), B:289 Chou dynasty

Zhou dynasty, Z:492 Chou En-lai

Zhou Enlai, Z:492 Chouans, The book by Balzacl Balzac, Honoré de, B:70

Choudery, D. P. (Indian sculptor) Sculpture (Figurative form), S:216 Chow Chow, C:481

Chrétien, Jean [Canadian prime ministerl, C:481 Chrétien de Troyes [French poet],

C:481 Holy Grail, H:251

Lancelot, Sir, L:42 Christ of the Andes, C:481 with picture Christ of Velázquez, The [work by Un-

amuno] Unamuno, Miguel de, U:20 Christ the Redeemer [statue]

Rio de Janeiro, R:280 Christ, jesus See Jesus Christ

Christchurch (England), C:481 Christchurch [New Zealand], C:481 with picture

Christening Baptism, B:99 with picture Christiaan Barnard: One Life (book by

Barnard, Christiaan Neethling, B:114 Christian, Charlie (American musician),

C:462 Jazz (Cool jazz), J:77; picture on J:76 Christian IV [king of Denmark], C:482 Reformation (Development of the Reformation), R:181

Christian IX [king of Denmark], C:482 Christian X [king of Denmark], C:482 Christian, Fletcher [British mutineer] Bligh, William, B:387

Pitcairn Island, P:524 Christian Brothers [religious order] Jean Baptiste de la Salle, Saint, J:79

Christian Brothers Icharitable organization], C:482 Rice, Edmund Ignatius, R:267

Christian Era, C:483 Christian humanism Renaissance, R:219

Christian Morals (book by Browne) Browne, Sir Thomas, B:594

Christian name Name (Other given names), N:10 Christian Scientists [religious group],

Eddy, Mary Baker, E:75 Christian Socialism

Kingsley, Charles, K:282 Christiani, Alfredo (Salvadorian politi-

cal leader] El Salvador (History), E:224

Christiania Oslo, 0:510 Christianity, C:483

A:581

See also list of Related Articles Africa (Religions), A:124; A:149 with picture Armenia (People), A:580; (History)

Asia (Religions), A:625 Baptism, B:99 Copts, Cl:345 Cross, Cl:454 with picture

England (The Germanic invasions), E:274 Ethics (Ethics and religion), E:336 Feasts and festivals, F:39

India (Other religions), 1:65 ireland, History of (The coming of Christianity), 1:367

Irish literature (Early Irish literature), Jesus Christ (The early Christians),

J:101 jews (Jews in Christian Europe), J:114 Julian, J:160 Lord's Prayer, L:385

Mass, M:244 New Zealand, History of, N:166 Nigeria (The coming of the Europeans), N:213

Maori (History), M:179

Pacifism, P:17 Palm Sunday, P:108 Protestantism, P:815 Religion (How the major religions are organized), R:200; R:205

Religious life (Christian communities), R:207 Resurrection, R:243 with picture

Roman Catholic Church (The recognition of Christianity), R:338 Rome, Ancient picture on, R:381 Scotland, History of, S:168

Swedenborgians, So:475 Unitarians, U:38 Christianity or Europe lessay by Novalisl

Novalis, N:310 Christie, Linford (British athlete), C486 Christie, Dame Agatha [English authorl, C:486

Christie, Linford [UK athlete] Olympic Games picture on, 0:441

Christine de Pisan [french poet] Literature, L:312

Christine (book by King) King, Stephen, K:255 Christkind

Santa Claus (Santalike characters in other countries), S:77

Christmas, C:487 with pictures See also list of Related Articles

Christmas bells (plant), C:496 Christmas bonus Bonus, B:452 Christmas box

Boxing Day, B:502

Byzantine art, B:696 with pictures

Eastern Orthodox Churches, E:47

See Chromium Ear (Diseases), E:12 Christmas bush, C:496 Chrome [pigment], C:497 Chronica Maiora (book) Christmas card Christmas, C:495 with picture Chrome tanning Paris, Matthew, P:184 Chronicles of England, Scotland, and Leather (Tanning), L:141 with picture Greeting cards, G:365 ireland Christmas Carol, A [book by Dickens] Chromic acid, C:497 Christmas (Other customs), C:495 Holinshed's Chronicles, H:245 Chromite Chronicles of Japan, The [book] Dickens, Charles (Dickens' books), See Chromium Japanese literature (Beginnings), J:63 Chromium (element), C:497 D:160 Chronicles of Namia, The [book by Ghost, G:150 Chromosome, C:498 Alzheimer's disease, A:296 Lewis] Christmas carol Lewis, C. S., L:198 Baby (Before birth), B:4 Christmas, C:495 Chronicles, Books of, C:498 Biology (The growth of modern biol-Christmas Day ogy), B:307 Chronobiology Quarter days, Q:8 Biological clock, B:302 Brain (Genetic disorders), B:517 Christmas disease Chronometer [instrument], C:498 with Cell (Chromosomes), C:294; diagrams Haemophilia (Major types of haemopicture on C:296; (Cell research) C:303 philial, H:6 Navigation, N:51 Down's syndrome, D:277 Christmas Garland (book by Beer-Chrysalids, The book by Wyndhaml Embryo (Fertilization), E:226 bohml Evolution (How characteristics are in-Wyndham, John, W:426 Parody, P:198 Chrysalis, C:498 with picture herited), E:407 Christmas Island [Kiribati] Butterfly (The pupa), B:689 Fruit fly, F:476 Kiritimati Atoli, K:288 Cocoon, Ci:144 Gene, G:75 Christmas Island (Australian territory), Chrysanthemum, C:499 with pictures Genetic counselling, G:79 Chrysler, Walter Percy (American car Haemophilia (How haemophilia is in-Christmas Oratorio [music by Bach] manufacturerl, C:499 Bach, Johann Sebastian (The Fourth Peherited), H:5 Chrysostom, Saint John, C:499 Heredity, H:165; (table) H:166; rlod), B:17 (Chromosomes and genes) H:166 Chrysotile Christmas orchid Asbestos (Types of asbestos), A:618 Heredity (Chromosomes and sexual Orchid picture on, O:490 Serpentine, \$:271 determination), H:167 Christmas rose Chuang Tzu Heredity (How chromosomes are In-Hellebore, H:144 Zhuangzi, Z:493 Christmas tree herited), H:166 Chuang-tzu [book] Huntington's disease, H:386 Balsam fir. B:68 Taoism (Taoism as a philosophy), T:37 Lesch-Nyhan syndrome, L:184 Christmas (Christmas decorations), Chub, C:500 with picture C:494; pictures on P:492, 493 Life (Cells), L:247 Chuck wagon Christmas tree [industry] Mental retardation (Causes), M:357 Cowboy (The trail drive), Cl:408 with Petroleum (Completing the well), Miscarriage, M:508 picture Mutation, M:747 P:346 Chuck-will's widow Christmas wreath Nucleic acid, N:341 Whippoorwill, W:229 Plant (Factors affecting plant growth), Christmas, C:495 Chuckwalla [lizard], C:500 with picture Christo (Bulgarian sculptor) P:562 Iguana, 1:30 Races, Human (Mutation), R:48 Sculpture (Environmental scuipture), Chukchi (people) Reproduction, Human (How sex is de-S:218 with picture Arctic (Arctic peoples), A:543 Christophe, Henri [king of Haiti], C:496 termined), R:227 Chukker Reproduction (How genes are trans-Haiti (History), H:18 Polo (The game), P:657 Christopher, Saint, C:496 ferred), R:223 Chulalongkorn [king of Thailand] Christy, E. P. [American singer] Weismann, August, W:142 Thailand (A new dynasty), T:184 Foster, Stephen Collins, F:374 Chromosome 4 Chulan bin Sultan Abdullah, Raja Chroma Huntington's disease, H:386 (Malay ruler), C:500 Colour, Ci:199 Chromosome 7 Chulkhurst, Mary and Eliza |English Chromatic aberration llight Cystic fibrosis, Ci:515 legendary figures! Aberration, A:11 with diagram Chromosome-related dwarfism Kent (Local customs and legend), Telescope (Refracting telescopes), Dwarf, D:360 K:219 Chromosphere Chum salmon Chromatic adaptation [vision] Sun (Above the surface), So:415 Salmon (Kinds of salmon), 5:53 with Colour (Surprising colour-vision ef-Chronic bronchitis [disease] picture fects), Ci:194 Emphysema, E:231 Chunño [food] Chromatic scale [music] Chronic EBV infection Bolivia (Food), B:427 Music (The elements of music), M:729 Epstein-Barr virus, E:314 Ch'ung-ch'ing with diagram Glandular fever, G:184 Chongqing, C:479 Chromatin [biology] Chronic fatigue syndrome Chungking Cell (Inside a living cell), C:294 Epstein-Barr virus, E:314 Chongqing, C:479 Chromatography, C:497 Chronic fatigue syndrome Church (religion), C:500 Myalgicencephalomyletis (ME), M:748 Police laboratory (Analysing the evi-Architecture (Medieval architecture), dence), P:645 Chronic glaucoma A:523; (Renaissance architecture) Chromatophore Eye (Diseases of the eye), E:441 A:526; (Baroque architecture) Fish (External anatomy), F:167 Chronic obstructive pulmonary dis-A:528 Basilica B:106 Octopus (The life of an octopus),

Emphysema, E:231

Chronic otitis media (disorder)

0:410

Chrome

Marlborough, Duke of, M:214

Alcoholic beverage (Other fermented Truman, Harry S. (First administration), Protestantism, P:815 beverages), A:238 Roman Catholic Church, R:335 War correspondent, W:35 Cider vinegar Church and state, C:501 Cider, Ci:3 Churchill Downs [race track] See also list of Related Articles Cider with Rosie [book by Lee] Church Army, C:501 Kentucky Derby, K:223 Lee, Laurie, L:150 Churn [container], C:510 Church calendar CIE System of Colour Specification Calendar (The calendar today), C:34 Churning Colour, Ci:199 Year, Y:442 Butter, **B:678** Churrasco [food] Cigar, Ci:3 Church in Wales, C:501 Cuba picture on, Ci:476 Church of Christ Brazil (Food and drink), B:534 Smoking, S:501 See Churches of Christ Churubusco, Battle of Church of Christ, Scientist (religious Mexican War, M:396 Tobacco, T:269; (History) T:272; (Man-Chutney [food] ufacturing tobacco products group Eddy, Mary Baker, E:75 India (Food), E65 Church of England, C:502 Cigar wrapper tobacco Chyle See also list of Related Articles See Lymphatic system Tobacco (Kinds of tobacco), T:270 Boleyn, Anne, B:424 Chyme Cigarette, Ci:3 Elizabeth I (Problems at home and Alimentary canal, A:269 Cancer (Causes of cancer), C:120 abroad), E:212 Digestive system (From mouth to Filter, F:109 England (Religion), E:268 stomach), D:171 with diagram Health (Tobacco, alcohol, and drug Episcopal Church, E:313 Human body (The mouth, oesophagus, abuse), H:96 Hampton Court Conference, H:37 and stomach), H:354 Nicotine, N:201 Henry VIII, H:152 with picture Nutrition (How the body uses food), Smoking, S:501 Methodists, M:383 N:362 Tobacco, T:269; (History) T:272; (Man-CIA Prayer Book, P:740 ufacturing tobacco products) Puritans, P:866 Central Intelligence Agency, C:321 T:271 Religious life (Protestant churches), Ciampi, Carlo Azeglio Italian prime Cigarette smoking R:209 minister! Cancer [Causes of cancer], C:120 Supremacy, Acts of, So:430 Italy (Recent developments), I:261 Smoking, S:501 Test Acts, T:160 Cigarette (sculpture by Smith) Sculpture (The superrealists), S:217 Thirty-Nine Articles, T:220 Dominican Republic (Land and cli-Tractarians, T:323 mate), D:259 with picture United Kingdom (Religion), U:53 Cibber, Colley [English actor], Ci:1 Ciguatera idiseasel Church of Ireland, C:504 Pope, Alexander, P:680 Barracuda, B:118 Ireland (Religion), 1:356 Cibola, Seven Cities of, Ci:1 Cllaos (Reunion) Northern Ireland (Religion), N:270 Rain (Rainfall distribution), R:116 Coronado, Francisco Vásquez de, Church of Jesus Christ of Latter-Day Cilento, Diane [Australian actress] Ci:361 Saints Estevanico, E:335 Cilento, Cl:3 Mormons, M:608 Ciboney [people] Cilento, Lady Phyllis Dorothy Aus-Smith, Joseph, S:499 Antiqua and Barbuda (History), A:461 tralian doctorl Church of Scotland, C:504 Montserrat (History), M:581 Cilento, Ch3 Edinburgh, E:76 Cilento, Sir Raphael West [Australian West Indies (People), W:164; (History) Scotland (Religion), S:162 W:171 barrister] United Kingdom (Religion), U:53 Cicada, Cl:1 with pictures Cilento, Cl:3 Church of the Brethren Insect picture on, 1:254; (table) 1:262 Cilia, Cl:3 See Brethren, Church of the Cicely Animal (Legs and feet), A:396 Church of Wales Herb picture on, H:161 Cell (The cytoplasm), C:295 See Church of England (History) Sweet Cicely, So:476 Larva, L:66 Church, Frederick Edwin (American Cicero, Marcus Tullius (Roman orator), Lung (Other jobs of the lungs), L:415 painter], C:500 with picture Ch2 with portrait Nose, N:303 Churches of Christ, C:505 Augustus, A:745 Oyster (Body organs), 0:540 Churchill, Clive [Australian rugby Catiline, C:267 Paramecium, P:169 playerl, C:505 Civil rights (Natural law), Ci:41 Protozoan (Ciliates), P:819 Classicism (Rome), Ci:65 Churchill, Jennie Jerome Smoking (Particulates), S:501 See Churchill, Sir Winston Damocles, D:17 Ciliary body [anatomy] Churchill, John Dancing (Ancient times), D:25 Eye (Parts of the eye), E:435 See Marlborough, Duke of Democracy (Origins of democracy), Ciliate Protozoan (Ciliates), P:819 with picture Churchill, Lord Randolph (British politicianl, C:505 with portrait Latin literature (The Golden Age), L:99 Ciliated cells (biology) Churchill, Odette (French-born British Oratory (Classical orators), O:485 Fallopian tube, F:16 Cilier, Tansu [Turkish political leader agent], C:505 Renaissance (Humanism), R:215 Turkey (Recent developments), T:465 Churchill, Sir Winston British states-Rome, Ancient picture on, R:380 Cimabue, Giovanni IItalian artisti, Ci3 manl, C:506 with pictures Roscius, Quintus, R:396 See also list of Related Articles Cid, The [play by Corneille] with picture Autograph picture on, A:871 Corneille, Pierre, Ci:357 Giotto (His life), G:163 Madonna and Child (Painters of the Battle of Britain, B:157 Drama (French neoclassical drama), Iron Curtain, 1:403 D:293 Madonna), M:34 London picture on, L:373 Cid, The [Spanish herol, Ci:2 Cimabue's Madonna Carried

Cider, Ch3

Through the Streets of Florence

[painting by Leighton] bits), So:131 with diagram Trappists, T:367 Circular saw Cictorn Leighton, Lord, L:161 Saw (Power saws), S:116 with picture Reservoir, R:238 Cimbri (ancient people) Germany (Ancient times), G:130 Timber picture on, T:251 Citadel, The book by Cronini Woodworking (Cutting), W:307 Cronin, A. J., Ci:452 Teutons, T:166 CITES (International Convention on Circulation Ciment fondu Trade in Endangered Species of Sculpture (Environmental sculpture), Circulatory system, Ci:6 Wind (Causes of wind), W:267 Wild Flora and Fauna) 5:210 Endangered species (Protecting en-Circulatory system, Ci:6 with diagram Cimmerians [people], Ci:4 dangered species), E:243 Aorta, A:469 Ukraine (History), U:12 Artery, A:605 with diagram India (Conservation), 1:71 Cimon lancient Greek military and politi-Citibank, Ci:14 Bird. B:353 cal leader), Ci:4 Blood, **B:393** Cities Pericles, P:281; (War with Sparta) P:281 City, Ci:18 with pictures Butterfly, B:687 Cinchona, Cl:4 Fish, F:170 Cities of refuge [ancient Palestine], Plant (Medicines), P:542 Harvey, William, H:72 Cl:14 Ouinine, Q:30 Citizen Heart, H:99 Cincinnati (U.S.A.), Ci:4 Heart (Discovery of circulation), H:111 Citizenship, Cl:15 with pictures Cincinnatus, Lucius Quinctius [Roman Human body, H:356; (Trans on three Citizen Kane [film] statesman), Cl:4 Film industry (Films in the 1930's), nsional picture)H:353 Cinderella (opera by Rossini) F:102 with picture Insect, I:250 Rossini, Gioacchino Antonio, R:404 Welles, Orson, W:145 Lung (Gas exchange in the lungs), Cine camera Citizen King, The Photography (Making home movies), Louis Philippe, L:401 P:458 with pictures Lymphatic system, L:425 Citizen of the World, The work by Mammal, M:128 Cinema Goldsmithl Reproduction, Human, R:229 Edison, Thomas Alva picture on, E:78 Goldsmith, Oliver, G:243 Spider, So:220 Film industry (History of the cinema), Citizens' Advice Bureaux, Cl:14 Vein, V:324 F:98 with pictures Citizens band radio (CB), Cl:14 Circumcision, Ci:8 Cinematography Citizenship, Ci:15 with pictures Australian Aborigines (Initiation), Photography, P:441 See also list of Related Articles Cineraria, Cl:4 with picture Law (Ancient Roman law), L:113 Judaism (Special occasions), J:156 Cinnabar [ore], Cl:4 Rome, Ancient (People), R:372 Penis, P:260 Mineral picture on, M:485 Citialtépeti Cinnamon, Ci:4 Circumference Mexico (The Plateau of Mexico), M:410 Circle, C:5 with diagram Bark (How people use bark), B:111 Orizaba (mountain), O:502 Cinque ports [England], Cl:5 Pi, P:481 Citrange, Ci:16 with picture Circumstantial evidence [law] Cinquefoil, Ci:5 Citrate Evidence (Kinds), E:405 Cipher (cryptography) Citric acid, Ci:17 Circus, Ci:9 with pictures Codes and ciphers, Ci:147 with dia-Citric acid, Ci:17 See also list of Related Articles grams Acid (Organic acids), A:24 Circadian rhythm Barnum, P. T., B:114 Food additive (Kinds of additives), Clown, Cl:115 with picture Biological clock (Daily rhythms), B:303 Time (Biological time), T:257 Lion (Training lions), L:301 Scheele, Carl Wilhelm, S:124 Ringling brothers, R:279 Circe [Greek mythology], Ci:5 Citric acid cycle Rome, Ancient (Recreation), R:374 Odyssey Odysseus describes his wan-Krebs cycle, K:333 derings), 0:412 Circus Maximus Citrin, Cl:17 Scylla, S:220 Hippodrome, H:218 Rome, Ancient (Recreation), R:374 Citrine Circiaria, Tommasino di litalian writeri Gem picture on, G:72 Cire perdue (manufacturing) Etiquette (Etiquette today), E:343 Quartz (Types), Q:8 Circle (geometry), Ci:5 Sculpture (Greek sculptors), S:192 Citrine, Lord British trade union Circle graph Cirque Igeology leaderl, Ci:17 Glacier (How glaciers shape the land), Graph, G:300 Citron, Cl:17 with picture Circuit, Electric Citronella, Cl:17 Electric circuit E:141 ice Age picture on, I:7 Citronellai Electronics (How an electronic system Lake (The life of a lake), L:17 Citronella, Ci:17 works), E:185 Cirrhosis, Ci:14 Circuit breaker, Ci:6 Cltrus, Cl:17 Alcoholism (Effects), A:239 See also list of Related Articles Liver (Diseases of the liver), L:335 Electric circuit, E:141 City, Cl:18 with pictures Electricity (Controlling electricity), See also list of Related Articles Cloud (Kinds of clouds), Ci:109 E:169 Civilization, Ci:49 Fuse, F:508 Cis-polyisoprene rubber Climate (Differences in the surface of House (Electrical wiring), **H:324** Rubber, R:437 the land), Cl:81 Circular accelerator Ciskei (homeland), Ci:14 Conservation (Urban conservation), Eastern Cape, E:45; (History) E:46 Particle accelerator (Kinds of accelera-Ci:299 Xhosa, X:433 tors), P:206 England (Way of life), E:266 Circular Note Cistercians [religion], CE14

Bernard of Clairvaux, Saint, B:258

form), R:340

Roman Catholic Church (Cluniac re-

Tourism (Modern mass tourism), **T:314**

Space exploration (Kinds of earth or-

Circular orbit [astronomy]

Memphis, M:343

Milan, M:462

Middle East (Way of life), M:453

Prehistoric people (The end of prehistoric times), P:760 Soleri, Paolo, So:29 with picture Village, V:393 Water (City water systems), W:76 with World, History of the (The Industrial Revolution), W:354 **City Art Centre** Edinburgh (Art galleries, libraries, and museums), E:77 City Dionysia Drama (Greek drama), D:286 City in the Dawn, The [book by Allen] Allen, Hervey, A:272 City of Brotherly Love Philadelphia, P:362 City of God, The (book by Augustine) Augustine, Saint, A:745 Millennium, M:473 Philosophy (Medieval philosophy), P:424 City of Light Paris, P:175 City of London, Ci:38 **City of London Police** Police (United Kingdom), P:642 City of the Dead Egypt (City life), E:110 City of Wollongong Wollongong, W:289 City planning City (Future cities), Ci:37 Housing (Suburban developments), H:329 with picture; (New towns) Landscape architecture, L:44 Sociology (Population studies), So:11 Soleri, Paolo, So:29 with picture City region Armenia (Government), A:580 Azerbaijan (Government), A:896 City Rises, The [painting by Boccioni] Boccioni, Umberto, B:417 Painting (Futurism), P:80; picture on City Square [sculpture by Giacometti] Giacometti, Alberto, G:151 City-state, Cl:38 See also list of Related Articles Education (Ancient Greek education), E:89 Renaissance (Political background), R:215 with map World, History of the (The Tigris-Euphrates Valley), W:332; (The Greeks) W:338 Ciudad Bolívar [Venezuela], Ci:38 Ciudad Juárez Juárez, J:153 Ciudad Trujillo See Santo Domingo Civet, Ci:39 with picture

Civil and Military Gazette

Kipling, Rudyard, K:286

A:103

CivII code

Civil Aviation Authority (CAA)

Aeropiane (Building an aeroplane),

Code Napoléon, Cl:146 Civil contempt Contempt, Ci:315 Civil court Court (Types of courts), Cl:399; (How civil courts work) Ci:400 Civil defence, Ci:39 Civil disobedience, Ci:40 "Civil Disobedience" lessay by Tho-Thoreau, Henry David, T:225 Civil engineer Engineering, E:255; picture on E:254 Civil engineering Engineering (The branches of engineering), E:255 with picture Civil heraldry Heraldry (Heraldry today), H:160 Civil law, Ci:40 See also list of Related Articles Common law, Ci:220 Court (Systems of law), Ci:399 Crime, Ci:435 Law (Ancient Roman law), L:113; (Branches of law) L:110; (Systems of law) L:111 Law enforcement, L:117 Legal aid, L:154 Scottish law, S:175 **Civil liberties** Civil rights. CE41 Civil Liberty [pamphlet] Price, Richard, P:775 Civil List, Ci:40 Royal Family of the United Kingdom (The Royal Family in the 1990's), Civil protection See Civil defence **Civil Rights Act of 1964** King, Martin Luther, Jr. (The growing movement), K:254 Civil rights, Ci:40 See also list of Related Articles Citizenship, Ci:15 Freedom, F:433 lackson, Jesse Louis, J:6 Kennedy, John Fitzgerald, K:217 King, Martin Luther, Jr., K:253 United States, History of the (Poverty and discrimination), U:260 Civil rights movement Civil rights, Ci:40 Civil service, Ci:42 Government (Government departments), G:273 Pension (Occupational pensions), P:265 United Kingdom, Government of the (Government departments), G:152 Civil war (Bangladesh) Bangladesh, B:88 Civil war [Lebanon] Beirut, B:210 Lebanon (Economy), L:147; (Internal conflicts) L:147 with picture Civil war [Russia] Lenin, V. I., L:169 Stalin, Joseph (The Bolshevik revolu-

Trotsky, Leon, T:418 Union of Soviet Socialist Republics, Civil war [Spain] Falange Española, F:12 Fifth column, F:74 Franco, Francisco, F:423 Spain, So:186 World War II (The Spanish Civil War) Civil war [Uruguay] Uruguay, U:284 Civil War, American See American Civil War Civil War, English, Ci:43 with pictures and maps See also list of Related Articles Cromwell, Oliver, Ci:450 England, E:278 Hampden, John, H:33 Pride's Purge, P:776 Warwickshire (History), W:50 Civil War, Irish, Cl:47 with pictures See also list of Related Articles Civilian Conservation Corps (CCC) New Deal (Helping the needy), N:110 Civilization and Barbarism: Life of Juan Facundo Quiroga [book by Sarmiento) Argentina (The arts), A:556 Latin-American literature (The 1800's), Civilization, Ci:49 Ancient civilization, A:352 Culture, Ci:490 Family (Early families), F:22 Prehistoric people (The end of prehistoric times), P:760 Technology (Benefits of technology), T:84 World, History of the, W:330 Civilization on Trial book by Toynbeel Toynbee, Arnold Joseph, T:322 Clackmannan (Scotland), Ci:49 Clacton-on-Sea Essex, E:331 Cladding Cables (Fibre-optic cables), C:5 Fibre optics, F:67 with diagrams Insurance, 1:272 Claim [law], Ci:50 Claiming race Horse racing (Types of horse races), H:307 "Clair de Lune" [music by Debussy] Debussy, Claude, D:63 Moon (Literature and music), M:594 Clair, René [French film director], Cl.50 Clairvoyance, Cl:50 Extrasensory perception, E:433 Fortunetelling, F:366 Mind reading, M:480 Parapsychology, P:171 See also Parapsychology; Psychical 18 search; Telepathy Clairvoyant Joan of Arc, Saint (Joan's mission),

tion), So:268

1:120

Clam, Ci:50 Animal (Armour), A:404; (How animals raise their young) A:406

Geoduck, G:86

Mollusc, M:535

Pacific Ocean (Ocean life), P:15 See also Wampum

Clan. Cl:51

Africa (Marriage and the family), A:131 Family (sociology), F:19 Indian, American (Family life), 1:138

Kyrgyzstan (People), K:348

Scotland (Traditions), S:161

Tartan, T:45

World, History of the (The rise of Japanese civilization), W:345

Clandon Park (England)

Surrey (Places to visit), So:444

Clapperboard

Film industry (Shooting the film), F:87 with picture

Clara Morrison (book by Spencel Australia, Literature of (The development of the novel), A:830

Clare [Ireland], Ci:51 with picture and map

See also list of Related Articles Arms picture on, A:587

Clarence, Duke of

Kings and queens of Britain and Ireland (Lancaster and York), K:269

Clarendon [England]

Constitutions of Clarendon, Ci:309

Clarendon Code, Cl:52

Clarendon, Earl of, Ci:52 Puritans (History), P:866

United Kingdom, History of the (The Restoration), U:139

Clarendon, Earl of English noblemanl, CI:52

Clarification

Cheese (Processing the milk), C:362 Wine (Clarifying and aging the wine),

Clarinet imusical instrumentl, Ci:52 with picture

Music (Woodwind instruments), M:728 with pictures

Clarissa; or, The History of a Young Lady [book by Richardson]

Richardson, Samuel, **R:269**

Clark, Charles Joseph | Canadian political leaderl, Cl:53

Canada, History of (Recent developments), C:106

Clark, Charles Manning Hope (Australian historian], Ci:53

Clark, George Rogers | American frontiersman), Ci:53 with picture

Clark, Jim (Scottish motor-racing driverl, Ci:53

Car racing (Formula One racing), C:180; (table) C:180

Clark, Kenneth Mackenzie Clark, Lord, Ci:53

Clark, Lord [British writer], Ci:53

Clark, M. Lewis (American businessman]

Kentucky Derby, K:223

Clark, Mavis Thorpe [Australian author], Ci:53

Clark, William [American explorer], Ci:54

Rocky Mountains (History), R:328 Westward movement (Exploration),

Clarke, Arthur C. [British-born author], Ci:54

Clarke, Austin [Irish poet], Cl:54

Irish literature (Fiction and poetry), Clarke, Jeremiah British composeri, Ci:54

Clarke, John [Australian bushranger] Clarke, Ci:54

Clarke, Marcus Andrew Hislop [Australian writerl, Cl:54

Australia, Literature of (The development of the novel), A:830

Clarke, Ron [Australian athlete], Cl:54

Clarke, Sir Andrew [Australian administrator

Clarke, Ci:54

Clarke, Thomas [Australian bushranger]

Clarke, Ci:54

Clarke, William Alexander

See Bustamante, Sir William Alexan-

Clasper

Fish (Reproductive system), F:170 Shark (The body of a shark), \$:332

Class [biology]

Animal (The scientific classification of animals), A:380

Classification, Scientific (How organisms are classified), Cl:66, Cl:67; (Groups in classification) Ci:67

Class [religion]

Methodists (Early history), M:383

Presbyterians, P:763

Class isociologyi

England (People), E:263 Latin America (Ancestry), L:77

Peru (Ways of life), P:310

Social class, So:2

Union of Soviet Socialist Republics (Privileged classes), U:30

United Kingdom (The United Kingdom today), U:153

Class action [law], Cl:54

Class differences

Social class, So:3

Class struggie

Economic determinism, E:59 Marx, Karl (The Communist Manifesto), M:235; (The class struggle) M:235

Revolution of 1848, R:247

Classic of the Way and the Virtue,

The [philosophy] Chinese literature (Beginnings), C:469

Laozi, L:61 Taoism (Taoism as a philosophy), T:37

Classical age

French literature, F:447

Classical architecture Architecture, A:521 with pictures Classical ballet

Ballet (Classical ballet technique), B:51 with pictures

Classical Chinese (language)

Chinese language (Development), C:469

Classical conditioning

Learning, L:137 Classical drama

French literature, F:447

Classical economists

Economics, E:64

Laissez faire, L:16

Marshall, Alfred, M:226

Ricardo, David, R:260

Smith, Adam, S:498

Classical music, Ci:55 with pictures See also list of Related Articles

Music, M:734

Classical ode Poetry (Lyric poetry), P:609

Classical opera

Opera, 0:464

Classical period Mexico, M:417

Russian literature (The classical movement), R:497

Classical poetry

French literature, F:447

Classical relativity principle [physics] Relativity (Special theory of relativity), R:191

Classical sculpture

Sculpture, \$:206 with picture

Classical Symphony Imusic by Proko-

Prokoftev, Sergei Sergeyevich, P:799 Classicism, Ci:65 with picture

Age of Reason (The orderliness of na-

ture). A:157 Classical music (The classical period),

French literature (The classical age), F:447

Realism, R:159

Russian literature (The classical movement), R:497

Classification, Scientific, Cl:66

See also list of Related Articles

Animal, A:376; (The scientific classification of animals) A:380

Archaeology, A:503

Biology (The origins of scientific classification), B:306

Bird (A classification of birds), B:358

Botany (What botany includes), B:479 Fish (A classification of fish), F:179 with

pictures Flower, F:267

Linnaeus, Carolus, L:295

Mammal, M:137

Plant, P:570

Tree (Scientific classification of trees), T:390

Classing

Cotton, Ci:386

Classroom

School, S:131 with picture

Clastic sediment

Rock, R:308

Cleft grafting Claude (French painter), Ci:68 Clay tablet Grafting (Kinds of grafting), G:283 with Book (Early books), B:455 with picture Classicism picture on, Ci:65 picture Claudel, Paul [French writer], Ci:68 Library (Libraries of clay), L:229 with Cleft lip Drama (French drama), D:299 picture See Cleft palate Mythology (Greek mythology), M:756 French literature (The four masters), Cleft palate, Ci:72 F:449 Clay vale Reproduction, Human (The structures Milhaud, Darius, M:464 Wiltshire (Land regions), W:266 Claudius (Roman emperor), Ci:69 Clay valley of the mouth), R:229 Speech therapy (Types and causes of Agripping the Younger, A:177 Wiltshire (Land regions), W:266 England (The Roman conquest), E:273 Clay, Cassius Marcellus speech defects), So:208 Ali. Muhammad, A:267 Cleisthenes [Athenian statesman], Ci;72 Nero. N:80 Clay, Henry [American statesman], Ci:70 Athens (Democracy), A:708 Rome, Ancient (The height of the empire), R:381 Clay, Lucius Dubignon |American mili-Greece, Ancient (New forms of gov-**Claudius Ptolemaeus** tary leader], Cl:70 ernment), G:353 Ptolemy, P:833 Clayton Antitrust Act [1914] Pericles, P:281 Claudius the God [book by Graves] Antitrust laws, A:465 Clematis, Ci:73 with picture Clemenceau, Georges [French states-Graves, Robert, G:307 Clayton-Bulwer Treaty, Cl:71 Claus, C. F. [British chemist] Panama Canal (Early efforts), P:124 manl, Cl:73 with portrait Sulphur (How sulphur is obtained), Clayton, Philip (British army chapiain) Foch, Ferdinand, F:283 So:402 Toc H, T:273 Versailles, Treaty of, V:349 Clause (grammar), Cl:69 World War I (The Paris Peace Confer-Clea (book by Durrell) Sentence (Sentence classifications), ence), W:375; picture on W:377 Durrell, Lawrence, D:356 S:257 Clean Air Act [1956] Clemens, Samuel Langhorne Clausewitz, Karl von (Prussian army of-London (Postwar developments), L:374 Twain, Mark, T:479 ficer], Cl:69 Clean Air Amendments [1970] Clement I, Saint [pope], Cl:73 Clausius, Rudolf Julius Emmanuel Car (Air pollution), C:175 Pope (History), P:676 Petrol (History), P:331 [German physicist], Cl:69 Clement V [pope] Claustrophobia Clean room Church and state (The Middle Ages), Mental illness (Phobias), M:352 Air conditioning, A:190 C:501 Phobia, P:427 France (Growth of royal power), F:413 Gyroscope (Mechanical gyroscopes), Clavichord [musical instrument], Ci:69 G:446 Knights Templars, K:304 Clean Straw for Nothing book by Plano (History), P:483 Philip IV, P:365 Ciavicle **Johnston** Clement VII lantipopel, Cl:73 Collarbone, Cl:164 Johnston, George Henry, J:135 Clement VII (pope), Cl:73 Claw (zoology) Cleaner wrasse Boleyn, Anne, B:424 Animal pictures on, A:402 Wrasse, W:412 Reformation (In England), R:182 Bear (The body of a bear), B:168 Cleaning Clement VIII (pope), Cl:73 Bird (Legs and feet), B:351 with pic-Clementi, Muzio [Italian composer], Coal. Ci:128 tures Rice. R:266 Ci:74 Cat (Body size and structure), C:244; Teeth, T:93 with picture Cleopatra [queen of Egypt], Ci:74 (The paws of a cat) C:245 with dia-Cleanliness Alexandria (History), A:245 grams Health, H:95 Antony, Mark, A:466 Lobster (The body of a lobster), L:345 Clear Communications Augustus (Rise to power), A:745 with picture Telephone (New Zealand), T:109 Caesar, Julius (Civil war), C:13 Claw hammer Egypt, Ancient (Roman rule), E:129; Clearing device Nail, N:5 Industrial espionage (Counterpicture on E:127 Clawed [ird (animal) measures to industrial espionage), Octavia, O:406 Gerbil, G:105 Cleopatra's Needles, Ci:74 Clay animation Clearing house (money), Cl:71 with dia-Thutmose III, T:234 Animation, A:420 Clepsydra Clay, Cl:69 with picture Cleary, Beverly [American author], Time (Devices that measure time), See also list of Related Articles Ci:71 T:256 Gravel, G:307 Cleavage Water clock, W:85 Grinding and polishing (Grinding Diamond (What diamonds are), D:154 Clerestory [architecture], Cl:75 Architecture (Romanesque architec wheels). G:378 Embryo (Fertilization), E:227 Pottery (Preparing the clay), P:723; Gem (Qualities of gem minerals), G:70 ture), A:524 (Shaping the clay) P:723 Mineral, M:486; (Chemical bonds) Clergy Rhône River, R:258 M:487 Deacon, D:53 Rock (Clastic sediments), R:308; (Meta-Eastern Orthodox Churches, E:48 Cleavage site morphic rock) R:309 Gene mapping, G:75 Minister, M:496 Soil (Texture), So:21 Genetic engineering (How genes are Priest, P:776 Tile, T:247 isolated), G:80 Rabbi, R:37 Religion (How the major religions are Clay modelling

Cleaver, Eldridge [American social re-

American literature (Fiction and other

former], Ci:72 with portrait

prose), A:320 Cleethorpes [England], CI:72

Clef [music]

Sculpture (The sculptor at work), S:192

Clay pigeon shooting, Cl:70 with pic-

with picture

ture Clay slurry Barium, B:110

Music (Pitch), M:732 with pictures

organized), R:200

Orwell, George, 0:507

Roman Catholic Church, R:337 Clergyman's Daughter, A (book by 0"

ain and France), I:112 Clermont, Council of [1095] Sahara, S:19 Crusades (How the Crusades began), Season, S:229 Cloche Hat, H:76 with picture Shelter, S:350 CI:462 Soil (Effects of climate), So:20 Clock, Ci:85 Urban II, U:277 Sun. So:408 Clermont [boat], Ci:75 Atomic clock, A:730 Weather, W:110 Fulton, Robert, F:483 Ship (The Clermont), S:371 Climatic season Hour, H:321 Season, S:229 with picture Steamboat, So:309 Hourglass, H:321 United States, History of the (Expan-Climatology Climate, Ci:79; (Describing and classi-Time (Measuring time), T:256 sion and the economy), U:247 Water clock, W:85 Cleve, Per Theodor (Swedish scientist) fying climates) Cl:80 Geography (Divisions of geography), Clock pendulum Helium, H:138 Pendulum, P:254 G:88 Holmium, H:249 Humboldt, Baron von, H:366 Clock Tower Thulium, T:232 Westminster, Palace of, W:195 Science (Meteorology), S:140 Clevedon [England] Zhu Kezhen, Z:493 Avon (Places to visit), A:892 **Climax community** Cleveland bay [breed] Burgess, Anthony, B:649 Ecology (Changes in communities), Horse (table), H:286; (Heavy harness Clodius Parnassian horses) H:290 Butterfly picture on, B:684 Climbing crane Cleveland [England], Cl:75 with pictures Clofazimine [drug] Crane, Cl:416 and map Leprosy (Treatment), L:183 **Climbing foot** See also list of Related Articles Clog Bird picture on, B:350 Arms picture on, A:585 Shoe picture on, \$:390 Cleveland [U.S.A.], Ci:75 Clinching Wooden shoe, W:304 Boxing picture on, B:497 Ohlo picture on, O:418 Clog (dance) Cleveland Hills (England), Cl:78 Races, Human (The clinal approach), Cleveland, Grover [U.S. president], D:27 R:45; map on R:47 CI:77 Cloisonné (art) Clinic Cleves, Anne of Medicine, M:309 Kings and queens of Britain and Ireniques), E:234 land (The House of Tudor), Ci:273 Clinical death lapan (Other arts), k46 Death (Medical aspects of death), D:58 Cliburn, Van (American concert pianist), Clinical engineering Cl:78 Biomedical engineering, B:313 Click beetle, CI:78 Reade, Charles, R:149 Clinical psychology, Ci:84 Beetle, B:198 with picture Cloister larchitecture), Cl:87 Psychology (Major fields of psychol-Click language Cloister [religious community] ogy), P:828 Africa (Black African languages), A:123 Convent, Ci:318 Cliff, Cl:78 with picture Clinker Clomiphene citrate Cement and concrete (How cement is Clifford, Sir Hugh, Ci:78 made), C:313 Cliffs of Dover Clone (reproduction), Cl:87 Clinker-built vessel Dover, Strait of, D:274 Ship (Viking ships; illustrations), \$:366 Ciliton Suspension Bridge ing), H:174 Clinton, Bill IU.S. presidenti, Ch84 with Avon, A:889 with picture Ciontarf, Battle of [1014] Climacteric picture Disarmament (History), D:186 Menopause, M:348 Close binary Middle East picture on, M:457 Climate, Cl:79 with pictures and map Nova, N:310 President picture on, P:765 See also list of Related Articles Close-up magic United States, History of the (Recent Alps, A:285 Magician, M:48 developments), U:264 Arabs, A:489 Closed circuit [electricity] Arctic Ocean, A:548 Clio Flectric circuit, E:141 Bird (The distribution of birds), B:319 Muses, M:717 Closed-circuit television Clothing (Protection), Cl:90 Cliometrics History (Interpreting historical events), Desert, D:131 with pictures and maps Greenhouse effect, G:360 14:225 Closed couplet [poetry] Clipper ship, Cl:84 with picture Indian Ocean, I:169 Couplet, Cl:397 Irrigation, 1:405 Cutty Sark, Cl:508 Poetry (table), P:611 Lake, L:18 Ship, S:370 with picture **Closed curve** Transportation (The age of overseas Life (The physical environment), L:246 expansion), T:353 with picture Mountain, M:665 Closed primary Nuclear winter, N:341 Clipstone [England] Primary election, P:777 Nottinghamshire (Places to visit), Ocean (As an influence on climate), Closed region (geometry) 0:390 N:307 Pacific Ocean, P:15 Clitelium (zoology) Closed shop, Ci:87 Earthworm, E:39 with picture Phenology, P:361 Industriai relations, I:209 Clive, Robert (British administrator), Plant (Factors affecting plant growth), Open shop, 0:455 P:562 Ci:85 Trade unions, T:329 Bangladesh (The East India Company),

Prairie, P:737

Races, Human (Climatic adaptations),

See also list of Related Articles Chronometer, C:498 with picture Clockwork Orange, A lbook by Bur-Dancing (The rise of romanticism), Enamel (Decorative enamelling tech-Cloister and the Hearth, The book by Multiple birth (Fertility drugs), M:694 Heredity (The era of genetic engineer-Ireland, History of (Rival kings), 1:368 Communication (At school), Cl:228 Television, T:120 with picture Set theory (In geometry), \$:277 Set theory (In geometry), S:277 Clostridium botulinum

Botulism, B:486

India, History of (Rivalry between Brit-

Tokyo, T:282

Disease (Bacterial diseases), D:191 Wooden shoe, W:304 Clown, Cl:115 with picture Clostridium tetani Clothing industry Circus, Ci:10 with picture Tetanus, T:165 Clothing (Working in the clothing in-See also Jester Closure Clown loach dustry), Ci:108 Gestalt psychology, G:143 Clothing length fibre Fish picture on, F:165 Perception (Principles of perception), Wool (Sorting and grading), W:311 Clown triggerfish Clotho Fish picture on, F:162 Clot Fates, F:35 Clowns, The ballet Anticoagulant, A:458 **Clotting factor** Ballet picture on, B:48 Blood (Controlling bleeding), B:397 Blood (Controlling bleeding), B:397 Clowns of God, The book by West Fibrin, F:65 Haemophilia, H:5; (Major types of ha-West, Morris, W:155 Cloth beam emophilia) H:6 Club, The [work by Williamson] Weaving (Weaving on a loom), W:125 Plasma (Functions of plasma), P:575 Williamson, David, W:258 Cloth [fabric] with picture Club [suit] Cotton (Making cotton into cloth), Von Willebrand's disease, V:426 Card game (History), C:192 Ci:387 with pictures Cloud, Cl:109 with pictures Club (weapon) Painting (Painting supports), P:39 Air (Moisture in the air), A:183 Indian, American (Weapons), 1:146 Weaving, W:124 with pictures Dew point, D:149 Club hair See also Textile Earth picture on, E:16 Hair (Cycles of hair growth), H:11 Cloth doll Fog, F:284 Club moss, Cl:115 with pictures Doll (The Middle Ages), D:245; (The Lamarck, Chevalier de, L:33 Plant (Lycophytes), P:544 with picture; 1800's) D:246 Lightning, L:271 with diagrams (Classification of plants) P:570 Clothes moth Rainmaking, R:121 with picture Cocoon, Ci:144 Tornado, T:300 with pictures Tree (Fossil trees), T:376 Moth (The importance of moths), Water (Water in the air), W:72 with di-Clubfoot, Cl:116 M:641 Clumber Park [England] Clothler's brush Weather (Wind), W:111 with diagram; Nottinghamshire (Places to visit), Teasel, T:81 with picture (Moisture) W:112 with diagram N:307 Ciothier's teasel Cloud chamber Clumber spaniel, CI:116 with picture Teasel, T:81 with picture Aitken, John, A:220 Clumping [physiology] Clothing, Cl:88 with pictures Wilson cloud chamber, W:263 Blood (The significance of blood See also list of Related Articles **Cloud forest** groups), B:398 Arabs, A:491 Honduras (The mountainous interior), Clune, Frank [Australian writer], Cl:116 Armour, A:582 with pictures H:260 Cluniac reform Australian Aborigines, A:835 Cloud seeding Pope (The early Middle Ages), P:676 Aztec, A:900 Rain (What causes rain?), R:116 Roman Catholic Church, R:340 Baby (Clothing the baby), B:10 Rainmaking, R:121 Clunies-Ross, John (Cocos Island 5et-Button, B:692 with pictures Weather (Attempts to control the tleri Climate (Clothing and climate), Ci:79 weather). W:122 Clunies-Ross, Cl:116 with picture Cloudburst, Cl:113 Ciunies-Ross, Sir Ian [Australian veteri-Convicts in Australia (Convict life), Clough, Arthur Hugh [British poet], nary scientist CI:323 Cl:113 Clunies-Ross, Cl:116 Cowboy, Cl:405 Clove, Ch113 with pictures Cluskey, Frank IIrish political leader, Easter (Wearing new clothes), E:44 Clovelly (England) Cl:116 Egypt, Ancient (Food, clothing, and Devon (Places to visit), D:147 Labour Party, L:4 shelter), E:122 Cloven hoof Cluster [astronomy] Fashion, F:31 Goat (Size and general appearance), Universe, U:265 Fur, F:488 Cluster bomb Greece, Ancient (Food, clothing, and Clover, Ci:114 with pictures Bomb (Fragmentation bomb), B:435 shelter), G:347 Clover ferm Clutch Hat, H:75 Fern picture on, F:57 Car (The transmission), C:156 Inca (Food, clothing, and shelter), 1:48 Clover mite Starter, S:295 with picture Mite, M:518 Transmission, T:342 with diagram Indian, American (Clothing), 1:139; (In-Cloverleaf [road] Clutch [zoology] dian ways of life)I:142 with pic-Bird (Laying and hatching eggs), B:346 Road (Intersections), R:296 fures Clovis I [Frankish king] Turtle (Young), T:473 Maoris, M:175 Belgium (The Middle Ages), B:221 Cluttering (speech defect) Pioneer life in Australia and New Zea-Speech therapy (Types and causes of Fleur-de-lis, F:226 land, P:511 France (Victory of the Franks), F:411 speech defects), So:208 Prehistoric people (Homo erectus), Franks, F:427 Clwyd [Wales], Cl:116 with map P:752; (The improvement of tools) Germany (Kingdom of the Franks), Arms picture on, A:589 P:758 G:130 Clyde, River [Scotland], Cl:118 Roaring Twenties, R:299 Merovingian, M:365 Scotland (Rivers and lakes), S:164 Rome, Ancient (Food, clothing, and Paris (Early years), P:183 Clydebank (Scotland), Cl:118 shelter), R:373 Salic law, S:50 Clydesdale (horse) Sewing, **S:285** Clown, The [book by Böll] Horse, H:290 with picture Shoe, \$:389 Böll, Heinrich, B:431 Clydesdale [Scotland], Ci:118 Clytemnestra [Greek mythology], Clill Tartan, T:47 with pictures Clown anemone fish

Fish picture on, F:163

Agamemnon, A:155

Coastal belt Illuminating gas, 1:33 Cassandra, C:228 New South Wales, N:128 with picture Coal gasification Electra, E:139 Gas picture on, G:53 Orestes, 0:493 Coastal lowlands Coal gasifier tar Cm [symbol] Tar. T:42 Curium, Cl:501 Ecuador, E:69 **Coal industry** Cnidaria Coal, Ci:130 with pictures Animal (A classification of the animal **Coal mine** kingdom), A:414 Poland, P:628 Coal, CI:119 Cnidarian, Cl:118 See also list of Related Articles Queensland picture on, Q:24 Staffordshire picture on, So:260 Invertebrate, 1:322 Coal miner leilyfish, J:82 Coastal plains Coal. Ci:119 Cnossus Coal (Coal industry), Cl:130 with pic-Knossos, K:306 Congo, Cl:280 tures Court Israel, 1:433 Coal mining Canute, C:132 Plain, P:531 See Mining Co (symbol) Spain, So:176 Coal oil Cobalt, Cl:135 Ukraine, U:9 Paraffin, P:160 Coach (vehicle), Ci:118 Coal research Railway, R:97 Coal, Ci:132 Stagecoach, S:262 Coal tar, Cl:134 Wagon, W:4 See also list of Related Articles Coat of arms Coach dog Coal (Coal as a raw material), Ci:122 Dalmatlan, D:11 Coke, Cl:157 Coach horse Tar, T:42 Horse (Heavy harness horses), H:290 Coal tar dye Coachwhip Dye (History), D:362 Ocotillo, O:406 Lake, L:16 Coagulant, Ci:118 Coal tit Anticoagulant, A:458 Tit. T:264 Blood (Controlling bleeding), B:397 war), N:173 Coalescence with pictures Paint (Household paints), P:23 Fibrin, F:69 Coatimundi Coalescence theory Haemophilla, H:5 See Coati Rain (What causes rain?), R:116 Vitamin (Vitamin K), V:411 Coating Coalition [politics], Cl:134 Coagulation [chemistry] Cabinet, C:3 See also Colloid Canada, History of (The conscription Rubber (Separating the latex), R:433 thorl, Cl:135 issue), C:102 with picture Government (Party systems), G:273 Water (Purifying and treating water), Parliament, P:190 W:78 Political parties (Multiparty systems), Coal, Cl:119 with pictures See also list of Related Articles P:651 Coanda effect [aerodynamics] Conservation (Energy conservation), Coanda, Henri Marie, Cl:134 Cl:298; picture on Cl:300 Coanda, Henri Marie (Romanian inven-Energy supply, E:247 torl, Cl:134 England (Mining), E:273 Coarctation of the aorta Fuel (Solid fuels), F:478 Heart (Blockage of the blood flow), Gippsland, G:164 H:139 Heating, H:128 H:108 Cob |bird| Industrial Revolution (Coal and iron), Coarse fishing Swan, So:455 Fishing (Fishing as a sport), F:185 1:213 Cob [tree] Coarse-woolled sheep Lignite, L:274 Hazel, H:92 Pennsylvania (Economy), P:263 Wool, W:310 Cobalt 60 Coast of Picardy [painting by Boning-Petrochemicals (History), P:329 Cobalt, Cl:135 Plant (Raw materials), P:542 Bonington, Richard Parkes, B:449 with Poland (Natural resources), P:630 Rock (Organic sediments), R:308 with picture Coast Ranges imountains, North Amerpicture Synthetic fuel, So:518 ical, Ci:134 Cobalt blue Olympic Mountains, 0:443 United States picture on, U:218 United States (The Pacific Ranges and Coal-burning electric power station Cobalt bomb Lowlands), U:211 picture on, E:157 Cancer (Radiation therapy), C:122 Coal conversion Coast redwood Cobar Redwood, R:177 Coal (Coal research), Ci:132 New South Wales (Mining), N:132 Sequoia (The redwood), \$:264 with Coal-dust explosion Cobb and Co., Ci:137 with picture

pictures

Belgium, B:219

Coastal and interior lowlands

Coal (Mine safety), Ci:131

Coke oven gas, Cl:158

Coal gas

South Australia, So:108 Colombia, Ci:172 El Salvador, E:222 North America, N:252 United States, U:207 Coastal margins (Australia) Western Australia, W:179 Brazil (The Northeast Region), B:539 Uruguay, U:282 with picture Coastal Strip, The South Africa, So:62 with map Arms, A:584 with pictures Heraldry, H:158 with pictures Coatbridge (Scotland), Cl:134 Monklands, M:507 Coates, Eric [English composer], Cl:134 Coates, Gordon New Zealand political New Zealand, History of (After the Coati [animal]. Ci:134 with picture Paint (Industrial paints), P:24 Coatsworth, Elizabeth |American au-Coaxial cable, Cl:t35 with picture Cable (Types of cables), C:4 Telephone (Long-distance lines), T:107: (History) T:109 Television (Coaxial cable and fibreoptic cable), T:132 Coaxial propeller Aeropiane (Propeilers), A:93 Coaxial-rotor helicopter Helicopter (Twin-rotor helicopters), Trace elements, T:322 Vitamin (Vitamin B_{12} and folic acid), Cobalt [element], Ci:135 Porcelain (Painting), P:688

Cobb, John Rhodes [British driver],

Ci:136 with pictures

Deafness (Medical treatment), D:56

Cochran, Jacqueline |American piloti,

Ear (The sense of hearing), E:9

Ci:140 with portrait

Cochlear nerve

Cobb, Ty American baseball playerl, Cochran, Sir Charles Blake [British Copra, Ci:345 Ci:136 with portrait stage producerl, Ci:139 Pacific Islands (Agriculture), P:12 with Cobbett, William (British journalist), Cock [bird] picture Cl:137 Pheasant (Appearance and habits), Palm (The fruits), P:106 Hansard, H:56 P:360 Plant (How seeds are dispersed), P.566 Cobden, Richard (British politician), Cock (weaponry) Coconut crab Ci:137 Flintlock, F:228 Animal (Interesting facts about ani-Peel, Sir Robert (British prime minis-Harquebus, H:66 mals), A:377 with picture ter). P:242 Cock-a-doodle Dandy [play by O'Casey] Hermit crab, H:179 COBE [satellite] O'Casey, Sean, 0:384 Coconut palm, Ci:143 with pictures Cock of the rock, Cl:140 with picture Satellite, Artificial (Important satellites), Palm (Kinds of palms), P:106 with pic-Bird (picture: Birds of Central and Cobh [!reland], Ci:137 with picture South America), B:330 Tree picture on, T:372 Cobham, Sir Alan John (British pilot). Cockaigne (music by Elgar) Cocoon, Cl:144 with pictures Cl:138 with portrait Elgar, Sir Edward William, E:210 See also list of Related Articles Aeroplane (Fliers of the golden age). Cockatiel, Ci:140 with picture Aestivation, A:109 A:81 Parrot (Kinds of parrots), P:200 Lungfish, L:416 Coblenz Cockatoo, Ci:140 with pictures Wasp (Life cycle), W:64 Koblenz, K:312 Parrot (Kinds of parrots), P:200 with Cocos (Keeling) Islands (Indian Ocean), Cobnut Ci:144 with picture and map Filbert, F:79 Cockcroft, Sir John Douglas (British Straits Settlements, So:343 Hazel, H:92 physicistl, Ci:141 **Cocos Malays** COBOL (computer language) Linear accelerator, L:291 Cocos Islands, Ch:144 Computer (Using programming lan-Particle accelerator (History), P:206 Cocoyam guages), Cl:262 Cocker spaniel, Ch141 Taro, T:46 Cobra [snake], Cl:138 with picture Dog, D:223 with picture; picture on Cocteau, Jean (French dramatist), Cl:145 Animal (Chemical defences), A:404 D:227 with portrait Asp, A:666 with picture English cocker spaniel, E:281 Drama (French drama), D:299 Snake charming, S:517 Cockerell, Sir Christopher (British French literature (French drama of the Snake picture on, \$:513; (Protection electronics engineer), Ci:141 mid-1900's), F:450 against enemies) S:514 Hovercraft (History), H:332 Cod, Cl:145 with picture See also Snakebite Cockeriii, William [British business-Cod-liver oil, Ci:146 Cobweb man] Coda (music) Sculpture (Pacific Islands sculpture), Industrial Revolution (The middle and Classical music (The sonata form), S:204 upper classes), 1:216 Ci:58 Spider, So:217 with pictures Cockfleld, Lord (British politician), Code (cryptography) Coca, Cl:139 Ci:141 Codes and ciphers, Cl:147 with dia-Bolivia (Food), B:427; (Agriculture) Cockflghting, Cl:141 grams B:429; (Trade) B:429 Cockle (sea animal), Ch141 Code [law], Ci:146 Cocaine, C:139 Cocklebur, Ci:141 Civil law, Ci:40 Cocaine (druo), Cl:139 Cockney, Ci:142 Draco, D:278 Bolivia (Food), B:427; (Agriculture) London (Ancestry and religion), L:368 Law (Civil-law systems), L:111 B:429 Cockpit Code Napoléon [law], Cl:146 Coca. Cl:139 Aeroplane (Basic movements and con-Civil law, Cl:40 Colombia (Trade), Cl:173 trols), A:97 with diagram Law (The first modern law codes), Dentistry (Modern dentistry), D:121 Glider picture on, G:206; (The body) Drug abuse (Abuse of Illegal drugs), G:207 Napoleon I (Administrator and law-D:321; (Table) D:322 Kayak, K:203 maker), N:20 CoccidioIdomycosis Cockroach [insect], Cl:142 with picture Code of conduct Fungal disease, F:485 Antennae picture on, A:449 Religion, R:198 Coccidiosis Insect (Hearing), 1:252 Code of Hammurabi Poultry (Raising poultry), P:727 Prehistoric animal (The move onto Babylonia (Language and literature), Coccyx land), P:744 B:14 Skeleton (The axial skeleton), S:460 Cockscomb, Cl:142 with picture Hammurabi, H:32 Spine, So:229 with diagram Cocktail Cochin China [region, Vietnam] Code of Justinian Alcoholic beverage (Distilled bever-Justinian Code, J:174 Indochina (French influence), I:181 ages), A:238 Code, Civil Vietnam (French rule), V:380 Cocktail Party, The Iwork by Elioti Code Napoléon, Cl:146 Cochise (American Indian chief), Cl:139 Eliot, T. S., E:211 Law (The first modern law codes), Cochlea Cocoa L:175 Ear (Parts of the ear), E:7 with diagram Cacao, C:8 with picture Codeine (drug), Ci:146 Cochlear duct Chocolate (Chocolate products), C:476 Analgesic, A:349 Ear (Parts of the ear), E:7 with diagrams Cocoa butter Opiate, 0:476 Cochlear implant Cacao, C:B Codependents

Chocolate (Manufacturing chocolate),

Q476

Coconut

Vegetable oil (Uses), V:323

Coconut palm, Cl:143

Drug abuse (Effects on family, friends,

Codes and ciphers, Ci:147 with dia-

and work), D:322

arams

Codex [book]

Book (Early books), B:455 Manuscript (Parchment manuscripts), M:171 Codex Sinaiticus British Library, B:580 Library (The Middle Ages), L:232

Codfish See Cod

Codicil WIII, W:254

Codification movement Law (The first modern law codes),

Codling moth, Ci:150 with picture Apple (Pests and diseases), A:478 Pear (Insects), P:233

Codon [biology]

Cell (Producing proteins), C:299; (The genetic code) C:302

Heredity (How proteins are made), H:171

Codrington, Sir Christopher [plantation owner

Antigua and Barbuda (History), A:461

Cody, William Frederick Buffalo Bill, B:624

Western frontier life, W:185

Coe, Sebastian (British athlete), Cl:150 with portrait

Coeducation, Ci:150 Coefficient (mathematics)

Algebra (Other definitions), A:256

Coefficient of friction Friction, F:459

Coefficient of linear expansion Heat (Changes in size), H:119

Coelacanth, Ci:150 with picture Fish (Primitive bony fish), F:156 Prehistoric animal (Interpreting fossil

evidence), P:749 Smith, James (South African scientist),

Coelenterate See Cnidarian

Coeiho, Gonçalo [Portuguese explorer] Exploration (Exploring the New

World), E:421 Rio de Janeiro, R:280

Vespucci, Amerigo (Life and expeditions), V:351

Coellac plexus

51499

Solar plexus, So:26 Coelom, Ci:151

Coen, Jan Pieterszoon (Netherlands Indies statesmanl, Ci:151

Jakarta (History), J:15 Coenzyme

Enzyme, E:310 Coercion acts [law], Ci:151

Coercion

Power [social sciences] (Forms of power), P:731

Coercive Acts

Intolerable Acts, 1:299

Coertse, Mimi | South African singer|, CI:151

Coetzee, J. M. South African writerl, Cl:151 with portrait South Africa (Arts), So:61

Coffee arabica

Coffee (The coffee plant), Ci:152

Coffee, Ci:152 with pictures See also list of Related Articles

Coffee house, Ch:153 with picture Greece picture on, G:336

Coffee Royal Affair

Kingsford Smith, Sir Charles, K:282

Cofferdam, Ci:154

Dam (How dams are built), D:14

Coffin

Funeral customs, F:484 Sarcophagus, 5:89

Coffs Harbour (Australia), Ci:154 Coa Ishipl

Ship (The cog), S:367 with picture

Coggan, Frederick Donald See Coggan, Lord

Coggan, Lord [English religious leader], Ci:154

Cognac (drink)

Alcoholic beverage (Brandy), A:238

Cognate

Etymology, E:346

Language (Linguistic terms), L:51

Cognition

Learning (Theories of learning), L:138

Cognitive dissonance

Social psychology, So:4 Cognitive map

Tolman, Edward Chace, T:288

Cognitive school [psychology] Psychology (Modern psychology), P-830

Cognitive theory [psychology] Developmental psychology, D:145

Education (How people learn), E:89 Cohabitation

Family (Other family patterns), F:21

Cohan, George M. [American composerl, Ci:154

Musical comedy (The first musicals), M:739

Cohen, Abner (British anthropologist) Anthropology (Modern anthropology), A:454

Cohen, Harriet (British planist), Cl:154 Cohen, Leonard [Canadian poet], Cl:155

Coherence theory

Philosophy (Epistemology), P:420 Coherent light

Laser (Characteristics of laser light), L:72 with diagram

Cohesion, Ch:155

Surface tension, So:435

Cohn, Ferdinand Julius |German botanistl. Ci:155

Coho salmon

Fish picture on, F:166 Salmon (Kinds of salmon), \$:53

Cobort

Army (Ancient armies), A:592

Legion, L:156

Induction coil, 1:205 with diagram Magnetic amplifier, M:55

Magneto, M:59 Coil method

Pottery, P:723 Coiling

Basket making, B:134 with picture

Coin (money)

Die and diemaking, D:167 with diagram

Mint, M:503 with picture Money, M:547 with pictures

Coin collecting, Cl:155 with pictures Coinage

Language (Linguistic terms), L:51 Slang (Coinages), S:479

Coincidence rangefinder

Rangefinder, R:135

Colr |fibre|

Coconut palm (The coconut), Cl:143 Laccadive Islands, L:7

Coke, Ci:157 with diagram

Coal, Ci:119 with picture; (Coal as a raw material) Cl:122

Coal tar, Ci:134

Graphite, G:300

Industrial Revolution (The revolution in ironmaking), I:214

Iron and steel (Raw materials), 1:390 Petroleum coke, P:354

Coke oven gas, Ci:158

Coal (Coal as a raw material), Cl:122 Coke. Ci:157

Gas (How gas is manufactured), G:55

Coke, Sir Edward (English barrister),

Williams, Roger, W:257

Coke, Thomas William (British agriculturistl. Ci:157

Agriculture (Improved crop-growing methods), A:173

Invention (The Industrial Revolution), 1:317

Coking plant

Coke diagram on, Cl:157

Cola

Soft drink, So:17

Cola nut

Kola nut, K:315

Colbert, Jean Baptiste [French statesman], Cl:158

France (The age of absolutism), F:413 Louis XIV, L:399

Colbung, Ken [Aboriginal organizer], Cl:158

Colchester [England], Cl:158

Essex (People and government), E:332 Coichicine (drug)

Colchicum, Ci:158 Colchicum, Ci:158 with picture

Crocus, Ci:449 Colchis [legendary country] Golden Fleece, G:239

Cold

Climate, C:81 Heat, H:115

Cold-blooded animal, Cl:159

Amphibian, A:339

Animal (Some common ways of grouping animals), A:380

Fish, F:150

Insect (Internal organs), 1:250 Reptile, R:230

Temperature, Body, T:137 Cold-blooded hibernators

Coleman, John (Australian Rules foot-

Lizard picture on, L:341 Hibernation, H:190 ball playerl, Ch161 Cold-core cyclone Coleman, Ornette [American musician] Collared peccary Jazz (New directions), J:78 Cyclone, Cl:511 Peccary, P:240 Cold dark matter (physics) Coleoptera Collateral trust bond Dark matter, D:35 Bond (Kinds of bonds), B:444 Beetle (Kinds of beetles), B:198 Cold extrusion Insect picture on, I:245 (table) I:262 Collected Essays . . . of Katherine Anne Porter, The book by Porter Extrusion, E:434 Coleraine (Northern Ireland), Ci:161 Cold frame, Ci:159 with picture Coleridge, Samuel Taylor (English) Porter, Katherine Anne, P:697 Collected Papers of Charles Sanders Cold front [weather] poetl, Ci:161 Cloud (Storms), Cl:113 Ballad, B:45 Peirce, The [book by Peirce] Weather (Fronts), W:114 with diagrams Epigram, E:312 Peirce, Charles Sanders, P:246 **Cold heading** Flying Dutchman, F:281 Collected Poems [poetry by Empson] Riveting, R:293 Lake Poets, L:28 Empson, SIr William, E:233 Cold rolling Collected Poems [poetry by Hope] Poetry (Romantic poetry), P:616 Iron and steel (Rolling), 1:395 Southey, Robert, So:122 Hope, Alec Derwent, H:275 Coleridge, Sara (British author) Cold sore, Cl:159 Collected Poems (poetry by Robinson) Herpesvirus, H:182 July (Quotations), J:163 Robinson, Edwin Arlington, R:303 Skin (Infections), S:470 Coleridge-Taylor, Samuel (British Collected Poems [work by Agee] Cold storage, Ci:159 composerl, Cl:162 Agee, James, A:158 Food preservation, F:306 Colet, John [English scholar], Ci:162 Collected Poems [work by Day-Lewis] Cold War, Ci:160 with picture with portrait Day-Lewis, Cecil, D:52 See also list of Related Articles Colette [French author], Ci:162 with por-Collected Poems, 1917-1952 [poetry by Berlin, **B:247** trait MacLeish) Conference on Security and Coopera-Coleus, Ci:162 MacLeish, Archibald, M:21 tion in Europe, Ch277 Gardening (Some popular house Collected Poems: 1919-1976 [work by Europe, E:391 plants), G:41 Tatel France (The Fourth Republic), F:416 Colic, Ci:163 Tate, Allen, T:66 Coligny, Gaspard de [French political Franco, Francisco (As dictator), F:423 Collected Poems of William Carlos Germany (The division of Germany), leaderl Williams, Volume One: 1909-1939, Catherine de Médicis, C:266 G:138 The [work by Williams] International relations, 1:295; (The Cold Huguenots, H:344 Williams, William Carlos, W:258 War Ends) 1:296 Saint Bartholomew's Day, Massacre of, Collected Stories (book by Porter) Korea, K:318 Porter, Katherine Anne, P:696 Nuclear weapon (History), N:340 Colin Clouts Come Home Againe Collected Stories of Colette, The Propaganda, P:807 [poem by Spenser] (book by Colette) Russia, R:491 Spenser, Edmund (Spenser's other Colette, Cl:162 Spain (Involvement in the Cold War), poems), So:213 Collected Stories of Dylan Thomas, So:187 Coliseum The [work by Thomas] Third World, T:220 Colosseum, Cl:190 Thomas, Dylan, T:222 Truman, Harry S. (The Truman Doc-Colitis, Cl:163 Collected Stories of Noel Coward, trine), T:427 Diarrhoea, D:157 The [work by Coward] United States, History of the (The Cold Collage [art], Ci:163 with picture Coward, Sir Noel, Cl:404 War and foreign policy), U:259 Braque, Georges, B:523 Collecting agent [chemical] World, History of the (The rise of com-Cubism, Cl:484 with picture Gold (Flotation), G:232 munism), W:356; (The easing of Picasso, Pablo (Early career), P:485 Collecting Cold War tensions) W:358 Collagen, Cl:163 Button (Button collecting), B:673 with Cold War Aging (Signs of aging), A:159 picture Communism, Cl:242 Bone (Composition of bone), B:446 Doll (Doll collecting), D:249 Space exploration, So:128 Connective tissue, Ci:289 Hobby (Kinds of hobbies), H:236 with Cold, Common, Ci:158 Collar pictures Immune system (Active immunity), 1:41 Grass (The grass plant), G:302 Rock (Rocks as a hobby), R:309 with Nose, N:303 Collar [clothing] picture Rhinitis, R:253 Clothing (The 1600's), Ci:103 with pic-Collecting tubule [anatomy] Sneezing, S:519 ture Kidney (How the kidneys produce Virus (Virus diseases in human be-Collar [harness] urine), K:244 with diagram ings), V:406 Invention (The Middle Ages), 1:315 Collection agency, Ci:164 Cole, G. D. H. [British economist], Ci:161 Collar [machine] Collective bargaining Cole, Nat "King" [American singer], Die and diemaking diagram on, D:168 Industrial relations, 1:209 Ci:161 with portrait Collarbone (anatomy), Ci:164 with dia-Strike, So:355 Jazz (The swing era), J:76 gram Trade unions, T:328 Cole, Thomas [American painter], Shoulder, S:398 with diagram Collective behaviour, Ci:164 Cl:161 See also Group dynamics; Riot; Van-Collard, Ci:164 Hudson River School, H:340 Collared anteater dalism Coleambally Irrigation Scheme Anteater, A:447 **Collective community** New South Wales (Power and irriga-Collared dove Communal society, CI:226 Communism (Communism in practice) tion schemes), N:130 Pigeon picture on, P:496 Colebee [Aborigine], Cl:161 Collared lemming Ci:239 Phillip, Arthur (Aborigines), P:418 Animai. A:393

Collared lizard

Israel (Rural life), I:432

Kibbutz, K:243

Collective farm, Ci:164

Agriculture (Eastern Europe), A:170 Asia (Life in China), A:639 with picture Azerbaijan (History), A:897

Bulgaria (Way of life), B:634

China (Rural life), C:441; (Agriculture)

C:454

Communism (Under Stalin), Cl:241 Cooperative (Worker cooperatives),

Czech Republic (Agriculture), Ci:520 Czechoslovakia (Communist rule),

Europe (Country life), E:365 Germany (Rural life), G:120 Korea (Rural life), K:322; (North Korea)

Russia (Agriculture), R:480 with picture

Stalin, joseph (The five-year plan), So:268 with picture

Talikistan (History), T:14 Turkmenistan (History), T:468

Ukraine (Agriculture), U:11; (Soviet rule) U:12

Union of Soviet Socialist Republics (Agriculture), U:31

Uzbekistan (History), U:294

Collective noun Noun, N:309

Collective ownership Socialism, So:8

Collective pitch lever

Helicopter (Piloting a helicopter),

H:140

Collective responsibility (government) Cabinet, C:4

Collective unconscious (psychiatry) Jung, Carl Gustav (His theories), J:168

Collectivism, Ci:165 Collector

Pen (Fountain pen), P:250 Collector (electronics)

Electronics (Solid-state components), E:189

Transistor (How transistors work), T:340 with diagrams

Vacuum tube (How a vacuum tube Works), V:297

Collector ring [electricity]

Electric generator (Alternating-current generators), E:148

Collegn Bawn, The Iplay by Bouckault Boucicault, Dion, B:487

College library

Library (Variety of kinds), L:211; (College and university libraries) 1:221 College of Arms, Ci:165

Heraldry (Heraldry today), H:160

College of Heralds

Heraldry (Heraldry today), H:160 College Widow, The Iplay by Adel

Ade, George, A:42

Collembola

Insect picture on, 1:242; (table) 1:261 Collie, Ch165 with picture

Dog pictures on, D:223, D:231

Collie, Alexander | Scottish-born naturalistl, Cl:165

Collimating lens

Spectrometer, So:207

Collingwood, Cuthbert

See Collingwood, Lord

Collingwood, Lord [British admiral], Ci:165

Collins, Anthony Freethinker, F:438

Collins, David [Australian settler], Ci:165

Hobart (History), H:234 Port Phillip Bay, P:694

Collins, Gerard [Irish political leader],

Collins, Michael (American astronaut). CI:166

Space exploration (Landing on the moon), So:149

Collins, Michael [Irish political leader], CE:166

Collins, Wilkie [English author], Ch:166 Detective story (The pattern), D:136

Collins, Zerubbabel [American sculp-

Sculpture (American sculpture), S:214

Collip, James B. (Canadian scientist) Banting, Sir Frederick, B:98 Insulin (Diabetes), I:271

Collodi, Carlo [Italian author], Cl:166 Fairies (Fairies in literature), F:11

Collodion [chemical] Photography (The beginnings of mod-

ern photography), P:461

Colloid, Ci:166

Suspension, So:447 Ultramicroscope, U:17

Colloided powder

Gunpowder (Kinds of gunpowder), Ce429

Colloquialism

Language (Linguistic terms), L:51 Novel (The United States), N:313 Slang, 5:478

Colloquy of the Old Men, The (story) Irish literature (Heroic tales, romances, and sagas), I:381

Collor de Mello, Fernando Brazilian political leader!

Brazil (Brazil today), B:546

Collotype printing

Printing, P:786 Colo-rectal cancer

Cancer, C:119

Colobus, Cl:166

Cologne [Germany], Cl:167 with picture Agrippina the Younger, A:177

Cologne [perfume]

Cologne, Ci:167 Perfume, P:280

"Colomba" (book by Mérimée) Mérimée, Prosper, M:365

Colombia, Ci:168 with pictures and

See also list of Related Articles Aviation (Aircraft nationality marks),

Bolívar, Simón (Fight for freedom),

Flag picture on, F:202

Herrera, Tomás, H:182

Panama (Colombian rule), P:119 World War II (table: The Allies), W:381

Colombo [Sri Lanka], Ci:175

Sri Lanka, So:258 with picture

Colombo Plan, Ci:175

Colón [Panama], Ch:175

Panama (Way of life), P:115; picture on P:117

Colon (anatomy), Ch:175

Cancer (Colo-rectal cancer), C:119 Diverticulitis, D:204 with diagrams

Colon [people] Algeria (French rule), A:265

Colon [punctuation], Cl:175 Punctuation, P:856

Colon surgery

Medicine (The specialities), M:311

Colonial architecture

Architecture (Colonial architecture in America), A:530 with picture

Colonial life in America, Ci:176 with pictures

See also list of Related Articles United States, History of the, U:238 with pictures

Colonial life in Latin America

Latin America (Colonial rule), L:89 Latin-American literature (Colonial literature), L:95

Colonial literature

American literature, A:310

Colonial painters

South Africa, Art of, So:71

Coionialism, Ci:185

See also list of Related Articles Africa (The beginnings of European control), A:151; (Colonial rule) A:152

Agriculture (Colonial agriculture), A:172

Asia (The Western conquest of Asia), A:658; (The age of colonialism) A:658 with picture; (The end of colonialism) A:659; (Results of colonialism) A:659

Colony, Ci:188

Europe (Colonial expansion), E:390 Imperialism, 1:45

Minority group (How a group becomes a minority), M:500

Racism (History), R:52

United Kingdom, History of the (Overseas affairs before 1763), U:141: (Overseas affairs after 1763) U:144: (The colonies) U:147; (Decline of the Empire) U:152

World, History of the (Imperialism), W:355; (The birth of new nations)

World War I (Competition for colo-

nies), W:364

Colonnade

Architecture (table), A:514 with picture; (Islamic architecture) A:519 Basilica, B:132

Colony [biology]

Ant (Life in an ant colony), A:429 with picture

Sculpture, S:192; (Pacific Islands sculp-

on S:202, S:217

Sun (The sun's surface), So:414

Soil. So:21

ture) 5:204 with picture; pictures

Coloureds Bee (The honey bee colony), B:187 Wool (Sorting and grading), W:311 Colony [political unit], Ci:188 Colour blindness, Ci:202 Africa (Other groups), A:122 South Africa, History of (Apartheld), Colonialism (Colonialism today), Ci:186 Blindness, B:388 Hong Kong, H:266 with picture Colour (The roles of the eyes and the Immigration (1700-1820, Colonies and brain), Cl:193 with pictures South Africa (People), So:58; (Way of convicts), I:36 Daiton, John, D:11 life) So:62 Law (English law in the colonies), L:115 Eye (Defects of the eye), E:441 Colouring agent Colony, Penal Mammal (Sight), M:129 Food additive, F:304 Penal colony, P:252 Colour by addition Colouring Color Purple, The [book by Walker] Colour (Mixing coloured lights), Ch:196 Leathercraft, L:143 American literature (Fiction and other Colster, Willem Joosten Van (Dutch Colour by subtraction prose), A:320 Colour (Mixing colorants), Cl:195 explorer]. Ci:203 Colorado beetle, Cl:189 with pictures Colour circle Colt Beetle (Leaf beetle), B:198 Colour (Producing colour harmony), Horse (table: Horse terms), H:286 Potato (Diseases and insect pests), Ci:198 with picture Colt revolving rifle Colour distribution Rifle picture on, R:275 Colorado [U.S.A.], Cl:188 with pictures Interior decoration, 1:285 Colt, Samuel [American inventor], and map Colour film Cl:203 with portrait Colorado Desert Photography (Developing colour film), Handgun (History), H:43 with picture California (Land), C:38 Coiter, John (American trapper), Ci:203 F:456 **Colorado Party** Colour harmony Coltrane, John William [American sax-Paraguay (Politics), P:162 Colour (Producing colour harmony), ophonistl, Cl:203 Uruguay (Politics), U:280 Ci:198 with picture Jazz (New directions), J:78 Colorado River Colour Intervals at Provincetown Coltsfoot, Ci:203 with picture California (Land), C:38 Idrawing by Hofmanni Colubrid Grand Canyon National Park, G:292 Drawing picture on, D:303 Snake, S:516 with picture Hofmann, Hans, H:241 Colugo Hoover Dam, H:275 Colour negative film Flying lemur, F:281 Irrigation, 1:406 Photography (Film), P:450; (Develop-Colum, Padraic (Irish writer), Cl:203 Coloratura ing colour film) P:456 Irish literature (Drama), I:383 Opera (table), 0:457; (The singers) Colour photograph Columba, Saint, Ci:203 with picture D:458 Photography (Printing colour photo-Ireland, History of (Irish missionaries), Colosseum (Rome), Cl:190 with pictures graphs), P:456 with pictures 1:367 City picture on, Ci:24 Colour printing Scotland, History of (Christianity), Italy picture on, 1:450 Printing (Printing in colour), P:785 with S:168 Rome, R:368 with picture pictures Columbanus, Saint Ilrish missionary, Colossians, Epistle to the, Ci:190 Colour reversal film Ch204 New Testament (Paul's missionary Photography (Film), P:450; (Develop-Columbarium journeys), N:136 ing colour film) P:456 Cremation, Ci:421 Colossus of Rhodes Colour scheme Columbia [U.S.A.] Rhodes, R:256 Interior decoration, 1:285 with dia-District of Columbia (D.C.), D:204 Sculpture (Kinds of sculpture), S:190 grams Columbia River [U.S.A.], Ci:204 with Seven Wonders of the Ancient World, Colour Scheme [book by Marsh] S:282 with picture Marsh, Dame Ngaio, M:224 Grand Coulee Dam, G:294 with map Colostomy Colour sensitivity Columbia University School of Social Surgery (Some common surgical oper-Photography (Film), P:450 Work ations), So:438 Colour signai Social work (History), So:8 Colour balance Television (Encoding the colour sig-Columbia (command/service module) Photography (Film), P:450 nais), T:130 Space exploration (Landing on the Colour, Cl:191 with pictures moon), So:149 with picture; (The Colour slide See also list of Related Articles Photography picture on, P:457 shuttle era begins) So:158 with Culture (Using symbols), Ci:491 Colour Symphony, A [music by Bliss] picture Gem, G:70 Bliss, Sir Arthur, B:390 Columbia (space shuttle) Interior decoration (Colour and light), Colour triangle Space exploration, So:128 I:283; (Using colour) I:285 Colour diagram on, Ci:197 Columbine, Cl:205 with picture Laser (Characteristics of laser light), Flower (Flowers of woodlands and for Colour vision L:72 Colour blindness. Ch202 ests), F:252 with picture Mineral, M:486 Colour (How we see colour), Ct:193 Columbite [ore], Ci:205 Newton, Sir Isaac (Light and colour), with diagram Columbium N:180 Colour wheel Niobium, N:220 Painting, P:36 with picture Colour (Producing colour harmony), Columbus (U.S.A.], Ci:205 Photography, P:444, P:445 Ci:198 with picture Columbus Telescope Prehistoric people (The appearance of Coloured glass Telescope (Recent developments in art), P:758 Glass (Recipes for making glass), G:191

Stained glass, So:262 with pictures

Coloured pencil

Pencil, P:255

Coloured structural glass

Glass (Kinds of glass), G:190

telescopes), T:116

Guadeloupe (History), G:391

Haiti (History), H:18

Maize (History), M:75

Ci:206

Columbus, Christopher [explorer],

Montserrat (Land), M:581; (History) Column (architecture), Ci:213 with pic-Architecture (table), A:514 with picture Building construction, B:627 Column [botany] Orchid (Parts of orchids), O:489 Column of July luly Revolution, J:164 with picture Column of Marcus Aurelius Sculpture (Roman sculpture), S:208 Column still (liquor) Distilling, D:204 Columnar cell Epithelium, E:313 Columnar crystal Frost, F:470 with picture Snow (How snow forms), So:520 Colwyn [Wales], Cl:214 Coma, Ci:214 Diabetes (Symptoms of diabetes), D:151 Enmb Chicken (The body of a chicken), C:394; (Kinds of chicken) C:396 with pictures Pheasant (Appearance and habits), P:360 Comb jelly kingdom), A:414 Ctenophore, Ci:471 Combination carrier Tanker (Kinds of tankers), T:29 Combination lock Lock, L:350 with picture Combination tanning Leather, L:142 Combinations [mathematics]

Animal (A classification of the animal

Permutations and combinations, P:286 Combine [painting]

Rauschenberg, Robert, R:145 Combine harvester, Cl:214

Maize (Harvesting), M:74

Oats (Harvesting oats), O:377 with pic-Potato (Harvesting), P:719 with picture

Reaper, R:161

Rice (Harvesting), R:265 with picture Soybean (Soybean farming), So:126; picture on So:124

Wheat (Harvesting), W:220 with pic-

Combing

Thread (Making thread from natural fibres), T:229 with diagram Wool (Making yarn), W:311 Combing length fibre

Wool (Sorting and grading), W:311 **Combining process**

Petroleum, P:350 Combite

Haiti (Culture), H:16

Jazz (The sound of jazz), J:73 with pic-

Combustion, Ci:214 Air pollution (Fuel combustion), A:202 Fire (What is fire?), F:125 Heat (Chemical reactions), H:116 Lavoisier, Antoine Laurent, L:109 Oxidation, O:535 Petrol engine, P:331 Science (The age of reason), S:147 Spontaneous combustion, So:236

Combustion chamber Electric power (Fossil-fuelled steam electric power stations), E:158 with diagram

Petrol engine (Cylinder head), P:332 Rocket (Kinds of rocket engines), R:320 with diagrams

Turbine (Gas turbines), T:450 with diagram

Combustion chemistry Fireproofing, F:139 Combustion cleaner

Air cleaner (Other types of air cleaners), A:189

Come Back, Little Sheba [play by Inge] Inge, William, I:233

Come back to Erin (book by O'Faolain) O'Faolain, Sean, O:414

Come Dance with Kitty Stobling [poem by Kavanagh] Kavanagh, Patrick, K:203

Come With Me [book by Kennedy]

Kennedy, Margaret, K:218 COMECON

Europe (Trade), E:380

Comedy [drama], Ci:214 Drama (Forms of drama), D:285

Literature (Forms of Literature), L:312 Comedy of Errors, The lplay by Shake-

speare] Shakespeare, William, S:310

Comedy of manners Comedy, Ci:214 Drama (England), D:294

Comenius, John Amos (Czech educational reformerl, Ci:215 Universal language, U:265

Comet, Cl:215 with picture and diagram Astronomy (The nighttime sky), A:686 Halley, Edmond, H:22 Halley's Comet, H:22

Halo, H:25 Herschel, Caroline Lucretia, H:183

Meteor (Meteor showers), M:381 Moon (The moon's surface), M:585 Solar system, So:26, So:27 Solar wind, So:28

Space exploration (Probes to comets), So:145 with picture

Comfrey, Cl:216 with picture Comic opera

Gilbert and Sullivan, G:158 Opera (Opera seria and opera buffa),

0.463 Comical Revenge, or Love in a Tub, The [play by Etherege]

Etherege, Sir George, E:335 Comics, Ci:216 with pictures

Cartoon (Comic strips, panels, and comic books), C:218 Cominform, Ch218

International, The (The Third Interna-

tional), 1:288

Coming and Going of the Pony Express, The [painting by Remington] Pony express picture on, P:670 Coming of Age in Samoa book by

Mead Mead, Margaret, M:291

Comintern, Ci:218

Communism, Ci:241 International, The, I:288 Lenin, V. I. (Civil war), L:172

Comitia (ancient Rome), Ci:218

Comitia Tributa

Plebeians, P:595 Rome, Ancient (Roman Republic),

Comma [entomology] Insect (Incomplete metamorphosis),

Comma [punctuation], Ci:218 Punctuation, P:857

Command and control room Police (Records and communications),

Command module

Space exploration (Apollo: Mission to the moon), So:148

Command unit Remote control, R:212 Commander in chief, Ci:218

Commander Islands, Cl:218 Commandments, Ten

See Ten Commandments Commando, Ci:218

Commedia dell'arte Drama, D:291 with picture Italian literature (Humanism and the

Renaissance), I:445 Pantomime, P:131

Commemorative scuipture Sculpture (as monuments and memorials), S:188 with pictures

Commemorative stamp Post office (Stamps and other postal

materials), P:713 Stamp collecting (Special stamps),

So:271 with pictures

Commensalism See Symbiosis

Commentaries on the Gallic War [book by Caesar]

Caesar, Julius (Other talents), C:14

Rome, Ancient (Learning about ancient Rome), R:382 Commentaries on the Laws of En-

gland [book by Blackstone] Blackstone, Sir William, B:381 Magna Carta (The charter after 1215),

M:50

Commerce Avon, A:890

Buckinghamshire, B:610 Manchester, Greater, M:145 New Zealand, History of, N:166

Commerce, Chamber of See Chamber of commerce

Commercial art, Ci:219 See also list of Related Articles Airbrush, A:205

Common camomile iplant

Camomile, C:61

Common law marriage Commercial (advertising) Common carrier, Ci:220 Marriage (Laws concerning marriage), Advertising (Television), A:61; (Radio) Common case [grammar] A:62 Case (Nouns), C:225 M:218 Radio (Stations and networks), R:79 Declension, D:72 Common logarithms Television, T:118 Grammar (Inflection), G:287 Logarithms, L:361 Commercial Bureau of the American Common coleus Iplanti Common maidenhair Gardening (Some popular house Maidenhair fern. M:69 Latin America (The movement to esplants) picture on, G:41 Common marioram tablish unity), L:92 Common cormorant Marjoram, M:212 with picture Commercial credit Cormorant, Ci:356 with picture Common market, Ci:221 Credit. Ci:420 Common crane [bird] European Union, E:395 Commercial hotel Crane (Kinds), CE416 Common mynah Hotel picture on, H:319 Common creeper Bird picture on, B:325 Commercial law Creeper, Cl:420 Common nightshade Law (Contract and commercial law), Common denominator Solanum, So:22 L:110; (table) L:112 Fraction (Comparing fractions), F:385 Common noun Commercial paper, Ci:219 Common difference Noun (Proper and common nouns), Commercial television Progression, P:795 N:309 Television, T:119 Common dolphin Common oakblue Dolphin, D:251 with picture Comminuted fracture Butterfly picture on, B:682 Fracture, F:390 with diagram Common earth Common oats Commission (income) Rare earth, R:139 Oats (The oat plant), 0:377 Percentage (Applications of percent-Common eland (animal) Common octopus [sea animal] age), P:276 Eland, E:135 Animal picture on, A:394 Commission, Military, Cl:219 Common Eurasian quail Common opossum Commissioner Quail, Q:4 Opossum, O:477 Police (Police around the world), P:641 Common factor [mathematics] Common orange Committee Factor, F:4 Orange, 0:481 Congress of the United States (Work-Common flicker Common osier ing in committees), Ci:284 Bird picture on, B:328 Osier, 0:509 Parliamentary procedure, P:195 Common peony Common frog United Nations (UN), U:165 Animal picture on, A:386 Peony, P:269 Committee for State Security Common gallinule (bird) Common Prayer, Book of See KGB Gallinule, G:16 See Book of Common Prayer Committee of Public Safety Common gender Common primrose French Revolution (Terror and equal-Gender, G:74 Primrose, P:778 with picture ity), F:453 Common hamster Common ratio Committee of the whole, Cl:219 Hamster, H:37 Progression, P:795 Commodity Common hippopotamus Series, S:269; (Working with infinite Economics, E:59 Hippopotamus, H:218 with picture series) S:270 Commodity exchange, Ch219 Common houseleek Common raven Trade (The use of markets), T:325 with Houseleek, H:328 Raven. R:146 picture Common iguana Common ridings Commodus [Roman emperor] Iguana, 1:29 Borders Region (Local customs), B:466 Gladiator, G:176 Common ivy Lothian Region (Local customs), L:395 Rome, Ancient (table), R:383 lvy, 1:477 with picture Common roller Common Australian Crow Common juniper Bird picture on, B:321 Butterfly picture on, B:685 Juniper, J:169 with picture Common rue Common barberry Common kestrel (bird) Rue. R:442 Barberry, B:106 with picture Falcon (Smaller falcons), F:12 with pic-Common Sense Book of Baby and Common basil [plant] ture Child Care [book by Spock] Basil, B:132 with picture Common kittiwake Spock, Benjamin McLane, So:233 Common Bible Kittiwake, K:293 Common Sense Ipamphlet by Painel Bible (Modern English translations), American literature (The revolutionary Common Law, The [book by Holmes] Holmes, Oliver Wendell, Jr. (Early life), period), A:311 Common black hawk [bird] 11:140 Declaration of Independence (Events Hawk. H:83 Common law, Ci:220 leading to the Declaration), D:72 Common blackdevil deep-sea angler Civil law. Ci:40 Paine, Thomas (American revolution: Fish picture on, F:164 Court (Systems of law), Cl:399; (Hisary), P:22 Common brick tory) Ci:401 Common shelduck Brick (Building brick), B:557 England (The Anglo-Saxon period), Bird picture on, B:323 Common burdock E:274 Duck picture on, D:339 Burdock, B:649 Henry II, H:151 Common shiner Common buzzard Law (Systems of law), L:111; (Develop-Fish picture on, F:166 Buzzard, B:693 ments in Britain) L:115 Minnow, M:499 Common calla [plant] Lien, L:244 Common squeteague Calla, C:40 M'Naghten Rules, M:521 Weakfish, W:108

Public utility (History), P:843

Trial (History), T:396

Common sundew

Sundew, So:424

Common Swallowtail Butterfly picture on, B:685 Common swift Swift, So:479 Common tern Bird picture on, B:323 Tern, T:157 Common toad Toad, T:268 Common viper Viper, V:400 Common wombat Wombat, W:292 with picture Common wren Wren, W:414 Commons [land], Ci:221 Commons, House of See House of Commons Commonwealth Aluminium Corporation Limited (Comalco) Welpa, W:141 Commonwealth, Ci:221 Civil War, English, Ci:46 Democracy (Commonwealth democracies), D:104 Commonwealth Day, Cl:221 Commonwealth Games, Ci:221 with picture Commonwealth Institute [London], Cl:222 Commonwealth of Australia See Australia Commonwealth of England Civil War, English, Ci:46 Cromwell, Oliver (Rise to power), United Kingdom, History of the, U:139 Commonwealth of Independent States, Cl:222 Army, A:592 Asia (The spread of Communism), A:661 Balarus (independence), B:211 Disarmament (History), D:186 Kazakhstan, K:204 Moldova (Breakup of the Soviet Union), M:530 Moscow, M:624 Navy, N:57; (The world's major navies) N:58 Nuclear weapon (The Soviet Union), N:339; (Limiting numbers) N:340 Russia (The breakup of the U.S.S.R.), R:492 Turkmenistan (History), T:468 Ukraine (independence), U:13 Union of Soviet Socialist Republics (The breakup of the Soviet Union), Yeltsin, Boris Nikolayevich, Y:447 Commonwealth of Nations, Cl:223 with map See also list of Related Articles Citizenship (Dual citizenship), Cl:16 Nationality, N:45 Statute of Westminster, So:307

United Kingdom, History of the (De-

cline of the empire), U:152

Commonwealth Preference

Commonwealth of Nations (History), Ci:226 Commonwealth Scientific and Industrial Research Organization See CSIRO Communal family Family (Other family patterns), F:21 Communal society, Ci:226 Amanites, A:297 Brook Farm, B:589 Collectivism, Ci:165 Doukhobors, D:274 Hutterites, H:391 Shakers, S:297 Commune, Ci:226 Beijing (History), B:205 Communal society, Cl:226 Cult (Characteristics of cults), Cl:489 Thailand (Local government), T:179 Commune [political unit] France (Local government), F:395 Italy (Local government), I:451 Communicable disease Disease (table), D:190 Communication, Cl:227 with pictures See also list of Related Articles Aborigines, A:27 Ant. A:432 Bird (How birds communicate), B:343 Cable, C:4 with pictures Cellular telephone, C:306 Clothing, Ci:90 Coaxial cable, Ch:135 with picture Colonial life in America, Cl:184 with pictures Colour, Ci:191 Dog, D:236 Dolphin (Group life), D:253; (Research on dolphins) D:253 Electricity, E:166 Fibre optics (Uses of fibre optics), F:68 Fire brigade, F:130 Handwriting, H:50 Human being (Cultural characteristics), H:347 Indian, American (Other Communication), 1:149 Indian, American (Writing), £149 Invention (The late 1800's), 1:318; (Recent developments) 1:320 Kinesics, K:253 Language, L:49 Laser, L:69 Maya, M:279 McLuhan, Marshall, M:290 Police (Records and communications), Public relations (Methods), P:841 Space exploration (Communicating with the earth), So:138 Telecommunication, T:100 Telegraph, T:101 Writing, W:423 Communication disruption Pheromone, P:361 Communication program Computer, Personal (Uses of a personal computer), Ch268 Communications satellite

Aerial (Dish aerials), A:70 with picture Communication (The development of modern communication), Ci:234 Radio, Amateur (Uses of amateur radio). R:87 Satellite, Artificial, S:97 Space exploration (Types of shuttle mission). So:159 with picture; picture on So:129 Telegraph (The telegraph today), T:103 Telephone (Long-distance lines), T:107 with diagram: (History) T:109 Television (Satellites), T:132; (Future improvements) T:133 Communion (religion), Ci:238 See also list of Related Articles Holy Grail (The search for the Grail), lesus Christ (The Last Supper), J:99 Lutherans (Doctrine), L:420 Communism, Ci:238 See also list of Related Articles Albania (History), A:230 Armenia (History), A:580 Asia (People), A:624; (Religions) A:625; (The spread of Communism) A:661 Azerbaijan (History), A:897 Berlin, **B:247** Bulgaria (Communist rule), B:638 Cambodia (History), C:46 Capitalism, C:144 China (The Communist Party), C:437; (Way of life) C:440; (Economy) C:454 Chinese literature (Modern Chinese literature). C:470 Civil rights (Civil rights today), Cl:42 Cuba (Recent developments), Ch483 Czech Republic (Communist rule), Ci:521 Czechoslovakia (Communist rule), Economics, E:62; (Karl Marx and Communism) E:65 Freedom of religion, F:436 Germany (The division of Germany), G:138 Government, G:271 Hungary (Communist Hungary), H:383 Industry (Under different economic systems), I:222 journalism (In government-controlled societies), I:151 Korea (North Korea), K:320 Latvia (History), L:104 Lithuania (History), L:331 Luxemburg, Rosa, L:423 Philosophy (In the 1800's), P:426 Poland (Communist rule), P:633 Romania (Arts), R:352; (Communist control) R:358 Social class, So:2 Ukraine (History), U:5 Vietnam (Way of life), V:375 World, History of the (The rise of Communism), W:356; (The easing of Cold War tensions) W:358 World (Economic systems), W:323

Communism World War II (New power struggles), W:406; (Peace with Germany) W:407 Yemen (Formation of Yemen), Y:450 Communism (Communist influence in other areas), Ci:242 Communist executive [government] President (Types of presidential government). P:764 Communist Manifesto book by Marx and Engels! Communism (The ideas of Marx), Economics (Karl Marx and Communism), E:65 Engels, Friedrich, E:253 Marx, Karl (Marx's theories), M:235 Political science (Democracy and socialism), P:654 **Communist Party** Bulgaria (Communist rule), B:638 China, C:437 Germany (Politics), G:118 Gorbachev, Mikhail Sergeyevich, G:256 Hungary (Communist Hungary), H:383 International, The, 1:288 Italy (Economic problems and political change), I:471; (Social problems) 1:471; (Recent developments) 1:471 Jaruzelski, Wojclech, J:66 with portrait Latvia (History), L:104 Lenin, V. l., L:169 Lithuania (History), L:331 Mao Zedong (His life), M:173 Mongolia (Government), M:559 Moscow, M:624 Politburo, P:647 Political parties (One-party systems), P:650 Prague (History), P:737 Romania (Government), R:350 Russia (Politics), R:465 Union of Soviet Socialist Republics (Government), U:29 See also Communism Community [biology], Ci:245 Animal (Animal homes and communities), A:409 with pictures Ant (Life in an ant colony), A:429 Beaver (The life of a beaver), B:177 with picture Bee, B:184 with pictures Ecology, E:56 Fish (Fish in the balance of nature), F:153 Habitat, H:2 Insect (Family life), 1:256 with picture Life (The biological environment), -246 Portuguese man-of-war, P:708 with picture Termite, T:155 Wasp (Group life), W:64 Community [sociology], Ci:245 City, Ci:18 with pictures Law, L:110 Library (Active community service),

L:212

Police (History), P:643 Town, T:315 Town planning, T:315 Village, V:393 Community charge Poll tax, P:654 Taxation (Other taxes), T:70 Thatcher, Margaret (Prime minister), Community forestry Forestry, F:358 **Community Information Centres** Citizens' Advice Bureaux, Ci:14 Community medicine Medicine (The specialities), M:311 Community service Library, L:212 Commutative Law of Addition Algebra (Fundamental laws), A:255 Commutative Law of Multiplication Algebra (Fundamental laws), A:255 Commutator Direct-current generator, E:148 with diagram E:147 Electric generator (Direct-current generators), E:148 Electric motor (Parts of an electric motor), E:153; (The commutator) E:154 Commutator segment [electricity] Electric generator (Direct-current generators), E:148 Electric motor, E:154 Commuter Metropolitan area, M:392 Transportation (Public transportation), Commuter airline Airline (Kinds of airlines), A:207 Aviation (General aviation activities), A:879 Como, Lake See Lake Como Comoros, Ci:245 Flag picture on, F:200 Moroni, M:617 Compact bone Bone (Structure of the bones), B:446 Compact disc, Cl:246 with picture Computer (Optical scanners), Ci:258 Electronics (How electronic circuits process information), E:191 High-fidelity system, H:197 Invention (Recent developments), Laser (Recording, storing, and transmitting information), L:70 Optical disc, 0:479 Record player (Digital sound recording and reproduction), R:165; pictures on R:163 Recording industry, R:166 Compact disc player High-fidelity system, H:197 Record player pictures on, R:163, R:165 Compact Disc Read-Only Memory [CD-ROM]

Company [business], Ci:247 Economics (Important terms in economics), E:65 Holding company, H:244 Joint-stock company, J:137 Limited company, L:282 Company law Law (Branches of law), L:110 (The branches of law; table) L:112 Compaore, Blaise (Burkina Faso political leader Burkina Faso (History), B:655 Comparative advantage [economics] Free trade (The theory of free trade), F:432 International trade (Why nations trade), 1:297 Ricardo, David, R:260 Comparative anatomy Anatomy, A:350 Biology (The origins of scientific classification), B:306 Cuvier, Baron, Ci:508 Science (Anatomy), S:140 Zoology (What zoologists study), F-5000 Comparative degree [grammar] Adjective (Comparison of adjectives), Comparison, Cl:248 Comparative government Political science, P:653 Comparative linguistics Language (The science of language), Linguistics, L:293 (Comparative linquistics) L:294 Comparative psychology, Cl:247 with Psychology (Major fields of psychology), P:828 Comparator Automation (How automation works), A:874 Comparison Humour, H:371 Comparison (grammar), Ci:248 Adjective (Comparison of adjectives), Comparison (mathematics) Percentage (Applications of percent age), P:276 Compartment Heraldry (Elements of a coat of arms, H:160 Compass, Ci:248 with picture See also list of Related Articles Navigation, N:51 Compass (mathematics) Circle, Ci:5 Geometry (Some basic geometric constructions), G:96 Tool (Woodworking tools), T:296 Compass plant, Cl:249 with picture Compendium of Theological Studies Encyclopedia (New types of encyclo-

pedia), E:237

Police (France), P:641

Compagnies Republicaines de Securité(C.R.S)

[work by Bacon] Bacon, Roger (His life), B:19 Compensation Negligence, N:69 Competition [biology] Balance of nature (Maintaining the balance), B:35 Life, L:246 Competition (economics) Antitrust laws, A:465 Business, B:673 Capitalism (The market), C:145 Economics, E:62; table on E:65 Monopoly and competition, M:568 Compilation mapping [cartography] Map (Observation and measurement), M:189 Compiler Computer (Programming a computer), Cl:261 Compleat Angler, The book by Walton Walton, Izaak, W:29 Complement Immune system (The immune response), I:40 Set theory (Complement of a set), S:276 with diagrams Complementary colour Colour (Producing colour harmony), Ci:198 Complete Account of the Settlement at Port Jackson, A [book by Tench] Tench, Watkin, T:139 Complete dislocation [injury] Dislocation, D:199 Complete Poems [poetry by Sandburg] Sandburg, Carl (His poetry), S:72 Complete Poems, 1913-1962 (book by **Cummings**] Cummings, E. E., Cl:497 Complete Poems and Plays (1909-1950) [work by Eliot] Eliot, T. S., E:211 Complete protein Kwashiorkor, K:346 Nutrition (Proteins), N:363 Protein (Proteins in the diet), P:814 Complete Short Stories of Thomas Wolfe [book by Wolfe] Wolfe, Thomas Clayton, W:287 Complete Stories Ibook by Caldwell Caldwell, Erskine, C:33 Complete Works of O. Henry, The [book by Henry] Henry, O., H:154 Completing the square [mathematics] Algebra, A:259 Completion statement Conveyancing, Ci:319 Complex [psychology] Oedipus complex, O:413 Complex carbohydrate Carbohydrate (Kinds of carbohydrate),

C:187 with diagram

See also Nutrition

Complex circuit

Complex fraction

Electricity (Electric circuits), E:169

Fraction (Division), F:387 Complex number (mathematics) Factor, F:4 Complex sentence Sentence (Sentence classification), S:257 Components Electronics, E:183 Composer [music]. Ci:249 Film industry (Adding music and sound effects), F:90 See also Aleatory music; Classical music; Electronic music; Music Opera, O:456; (The elements of opera) 0:457 Composing stick Printing (Typesetting), P:781 Composite Alloy (Other alloys), A:278 Composite colour signals Television (Creating television signals), T:129 Composite column Architecture (table), A:514 with picture Column (The Roman orders), Ci:214 with picture Composite family (botany), Ci:250 with picture Composite flower Flower (Variations in flower structure), F:262 with picture Composite number [mathematics] Factor, F:4 Composition B [explosive] RDX. R:149 Composition (art material) Doll (The early 1900's), D:247 Composition [art] Painting (Painting composition), P:35; (Giotto) P:53 with picture; (Dutch painting) P:64 with picture; (Impressionism) I:76 Photography, P:444 with pictures Printing (Typesetting), P:781 Compositor Printing (Typesetting), P:781 Compost, Ci:250 Fertilizer (Organic fertilizers), F:60 Gardening (Analysing the soil), G:38 Lawn (Preparing the soil), L:118 Compound Ichemistryl, Ci:250 Acid, A:23 Atom, A:724

Chemistry (Fundamental ideas of chemistry), C:366 Cobalt (Uses), Cl:135 Element, Chemical, E:195 Matter (Compounds and elements), M:264; (Structure of matter) Compound connection [electricity] Electric generator (Kinds of DC gener-

ators), E:149 Compound dislocation [injury] Dislocation, D:199

Isomers, I:426

Compound engine Steam engine (Piston steam engines), So:308

Compound eye with diagram, Ci:251 Ant (Sense organs), A:429

Bee (Eyes), B:185

Beetle (Eyes), B:196 with picture Butterfly (Eyes), B:686

Crustacean (Senses), Cl:466

Eye (Eyes of animals), E:444; picture on

E:443 Fly (Head), F:278

Grasshopper (The body), G:304

Insect (The bodies of insects), 1:248 with picture;

Moth (The head), M:639 Wasp (Body), W:64

Compound fracture

Fracture, F:390 with diagram

Compound fruit

Fruit, F:476 with picture

Compound helicopter

Helicopter (Recent developments), H:142

Compound interest

Interest, I:278

Compound leaf

Leaf (The parts of a leaf), L:129 Plant (Leaves), P:554 with pictures

Tree (Leaves), T:378

Compound lens (optics)

Lens, L:174

Compound lever

Lever, L:197

Compound microscope

Microscope (How a microscope works), M:441

Compound mirror

Astronomy (Astronomy today), A:700

Compound motor

Electric motor (Kinds of electric motors), E:154

Compound ore

Ore. 0:492

Compound predicate [grammar] Sentence (Subject and predicate), S:257

Compound sentence Sentence (Sentence classification),

S:257 Compounding

Rubber, R:435

Comprehension

Reading (Comprehending what is perceived), R:152

Comprehensive coverage

Insurance, 1:275

Comprehensive plan

Town planning (Master plan), T:316

Comprehensive school

Education (Organization), E:84 Finland (Education), F:117

Compressed air

Air (Air compression), A:185

Compressibility

Sound (The speed of sound), So:49

Compression

Petrol engine (High and low compres-

sion), P:332 Refrigeration (Mechanical refrigera-

tion), R:185 Compression-ignition engine

Compression moulding

Plastics (Moulding), P:581 with picture

Compression ratio (engine)

Diesel engine (How a diesel engine works), D:168

Petrol engine (High and low compression), P:332

Compression stroke

Diesel engine (How a diesel engine works), D:168 with diagram Petrol engine, diagram on, P:333

Compressional wave

Earthquake (Why earthquakes occur), E:33

Seismology, S:241

Compressive strength

See Strength of materials

Compressor station

Gas (Transmitting and distributing gas), G:51

Compressor, Air

Air compressor, A:190

Jet propulsion (Turbojet), J:103 with diagram

Refrigeration (The electric refrigerator), R:185

Compromise of 1850

American Civil War (The conflict over slavery), A:305

United States, History of the, U:250

Compsognathus

Dinosaur (Theropods), D:177; picture on D:179

Compton-Burnett, Dame Ivy (English

novelistl, Cl:251 **Compton Gamma Ray Observatory**

Satellite, Artificial picture on, S:97 Space exploration (Back into space), So:160

Telescope (Gamma ray telescopes). T:116 with picture

Compton, Spencer

Wilmington, Earl of, W:260

Compulsion

See Neurosis: Mental illness

Computer, Cl:252 with picture See alsolist of Related Articles

Analog computer, A:349

Archaeology (Using computers)

Astronomy (Using computers), A:696 Babbage, Charles, B:2

Bank (Electronic banking), B:92

Biomedical engineering (Clinical engineering), B:313

Building construction (Constructing a skyscraper), B:628

Communication (At school), Ci:228 with picture

Communication (In business and industry), Ci:280 with picture

Communication (The development of modern communication), Ci:234

Compact disc. Cl:246

Culture (Invention), Cl:493 with picture Database, D:40

Desktop publishing, D:134 with pic-

ture

Factory (Location and design), F:5 Fingerprinting, F:111 with picture

Hobby (Other hobbies), H:236 lanition (The direct fire ignition sys-

tem), 1:29 with diagram

Integrated circuit, E275 Invention (The 1900's), 1:319; (Recent

developments) I:320

Iron and steel picture on, 1:402

Laser (Recording, storing, and transmitting information), L:70

Library (The growth of information), L:213; picture on L:210

Map (Drawing and reproduction),

M:189 with picture

Map (Mapmaking and modern technology), M:192

Mathematics (Philosophies of mathematics in the 1900's), M:260

Multimedia, M:692

Newspaper (Writing and editing stories), N:182; (Setting the type) N:182; pictures on N:184

Ocean (Tools of exploration), 0:399 Police (Records and communications),

Printing (Typesetting), P:781 Radar (Continued progress), R:62 Radio telescope (How a radio tele-

scope works), R:88 Railway picture on, R:104 Reading picture on, R:156

Robot, R:305

Space exploration (Communicating with the earth), So:138 with pic-

Telegraph (The telegraph today),

Television (Video entertainment systems), T:121

Virtual reality, V:405

Weather (Scientific advances in the 1900's), W:122

X ray (History), X:432

Computer-aided design

Car (Development of the concept), C:159 with picture

Computer (Creating and displaying documents and pictures), Ci:255 with pictures

Teeth (Crowning a tooth), T:94 Town planning picture on, T:316

Computer animation

Animation, A:421 with picture; (Animation in the mid 'sl A:422

Computer engineering

Computer (In engineering and the sciences), Ci:253

Engineering, E:258

Computer graphics, Ci:270 with pic-

Computer (Creating and displaying documents and pictures), Cl:255

Computer hardware

Computer (Computer hardware and software), Ci:257

Industrial espionage (Espionage techniques), **I:208**

Computer-integrated manufacturing Automation (In cost saving), A:873

Computer numerical control

Machine tool (Numerical control of machine tools), M:18

Computer program

Computer, Personal (Uses of a personal computer), Cl:268 Computer (Programming a computer)

Cl:261 Computer services

Telephone, T:108

Computer software Computer, Ch257

Industrial espionage (Espionage techniques), 1:208

Computer virus

Computer (Computers and security), Cl:267 Computer, Personal, Cl:268 with pic-

tures, M:692

See also Computer

Computerized tomographic scanner (CT scanner)

Cerebrai haemorrhage, C:327 Computerized tomography (CT), Ci:271

Surgery (Instruments), So:437

X ray (History), X:432

Computerized tomography (CT),

Cl:271 with diagrams Brain (Disorders of the brain), 8:517

Cancer (Preliminary diagnosis), C:122 Computer (Creating and displaying documents and pictures), Cl:255

Medicine (Other technological advances), M:319

Radiology, R:91

See also Positron emission tomography

Computing

Mathematics, M:255

Comrades Marathon

Fordyce, Bruce, F:341

Comte Ory, Le lopera by Rossinil Rossini, Gioacchino Antonio, R:404

Comte, Auguste [French philosopher] Ci:271

Positivism, P:709

Sociology (Early sociological thought) So:13

Comte's positivism

Positivism, P:709

Comtesse d'Haussonville | painting by Ingresi

Drawing picture on, D:304

Painting (Neoclassicism), P:68; picture on P:70

Comus [play by Milton] Milton, John (His early life and works)

M:476

Comyn, Michael [Irish poet] Irish literature (Modern works in Gaelic), 1:382

Conakry (Guinea), Ci:272

pictures

Guinea (Economy), G:414 with picture **Concave lens**

Eye (Defects of the eye), E:439 with

Glasses (Prescription glasses), G:202 Lens (Diverging lenses), L:174 with diagrams

Concave mirror

Aberration, A:11 with diagram Mirror, M:507 with diagram

Conceit [poetry]

Donne, John (His poetry), D:267 Poetry (Renaissance poetry), P:615

Concentrate

Iron and steel (Processing), 1:388

Concentration

Industry (Industrial organization), 1:224 Lead, L:125

Concentration camp, Ci:272

Anglo-Boer Wars (The War), A:370

Auschwitz, A:748 Beisen, B:233

Buchenwald, B:607

Dachau, D:2 Himmler, Heinrich, H:207

Hitler, Adolf (The New Order), H:230

Holocaust, H:249

World War II (Victory in Europe), W:394 with picture

Concepción [ship]

Magellan, Ferdinand (The voyage begins), M:42

Concept album [music]

Rock music (Expanding styles and sounds}, R:312

Conception

Birth control (Methods of birth control), B:367

Pregnancy, P:741

Reproduction, Human (Fertilization),

See also Fertilization

Conceptualism

South Africa, Art of (Overseas influence), So:71

Conceptus [biology]

Embryo (Fertilization), E:226

Concerning Man's Origin book by Keith!

Keith, Sir Arthur, K:210

Concerning the Revolutions of the Celestial Spheres (book by Coper-

Astronomy (The beginnings of modern astronomy), A:697

Concerning the Spiritual in Artibook by Kandinsky)

Kandinsky, Wassily, K:184

Concerning Traditionalism work by Unamunol

Unamuno, Miguel de, U:20

Concert band

Band, B:74

Concert Champêtre [painting by Giorglone

Giorgione, G:163

Painting (Venetian painting), P:60 with picture; (Edouard Manet) P:74

Concert of powers [politics]

International relations (From the 1500's to the 1900's), 1:295

Concertina imusical instrumenti, Ci:272 with picture

Concerto, Cl:272

Classical music (Orchestral music), Ci:56

Orchestra (History), O:488

Concerto for Cello and Orchestra

[music by Barber] Barber, Samuel, B:106

Concerto for Orchestra [music by Bartók)

Bartók, Béla, B:122

Concerto for Piano and Orchestra No. 1 in B flat minor music by

Tchaikovsky]

Tchaikovsky, Peter Illich, T:76

Concerto grosso

Concerto, Ci:272

Concerto in the Italian Style music by Bachl

Bach, Johann Sebastian (His works), B:17

Concerto No. 3 [music by Prokofiev] Prokofiev, Sergei Sergeyevich, P:799

Conch, Ci:272 with picture

Conchae

Nose, N:303

Conchiolin

Pearl (Characteristics of pearls), P:233

Conchology [hobby]

Shells (Collecting shells, and conservation), S:346

Conciliation and Arbitration Bill (1928)

Bruce, Stanley, B:596 Concilium Plebis

Rome, Ancient (The Roman Republic), R:376

Concise Oxford Dictionary Fowler, F:377

Concluding Unscientific Postscript

[book by Kierkegaard]

Kierkegaard, Søren Aabye (His philosophy), K:246

Conclusion

Deductive method, D:77

Geometry (Deductive reasoning), G:94 Logic, L:361

Philosophy (Logic), P:421

Concord [U.S.A.], Ch:273

Concord, Battle of, Ci:273

American Revolution (Lexington and Concord), A:325

Concord (ship)

Репту, Matthew Calbraith, Р:291

Concorde [airliner]

Aeroplane picture on, A:85 Airlines (Development of airlines),

Aviation (Aircraft manufacturing), A:879; (The future of the industry)A:880

Transportation (Overseas service), T:358 with picture

Cement and concrete, C:311 House (Materials), H:323

Rome, Ancient (Architecture and engineering), R:375

Concrete noun

Noun, N:309

Concrete pump

Construction equipment (Pumping machines), Ch:310

Concurrent forces [physics]

Force (How forces interact), F:337; (Calculating resultant force) F:337

Concussion, Cl:273

First aid, F:145

Condamine [river], Ci:273

Queensland (The Darling Downs), 0:20

Condemnation [law]

Eminent domain, E:230

Condensation

Air conditioning (Controlling the moisture), A:192

Dew. D:149

Dew point, D:149

Distillation, D:202 with diagram

Fog. F:284

Natural gas liquids, N:46

Refrigeration (Effects of heat transfer), R:184

Sound (The nature of sound), So:47 with diagram; (Beats) So:52 with diagram

Condensation nuclei

Cloud (How clouds form), Ck110

Rain (What causes rain?), R:117

Condensation point [temperature]

Heat (Changes in state), H:120

Condensation polymerization Polymerization, P:661

Condensation theory

Earth (The birth of the solar system), F:24

Condensation trail

Contrail, Ci:317

Condensed-matter physics

Solid-state physics, So:29

Condensed milk, Cl:274

Condenser

Dehumidifler, D:89 with diagram Distillation, D:203

Electric power (Fossil-fuelled steam electric power stations), E:158

Ignition (Battery ignition), 1:28

Nuclear energy (Steam production), N:326

Refrigeration (The electric refrigerator), R:185; (Gas refrigerator) R:105

Turbine (Steam turbines), T:449 with diagram

Watt, James, W:101

See also Capacitor

Conder, Charles [painter] Heldelberg School, H:134

Condition of Man, The book by Mumford)

Mumford, Lewis, M:699

Condition of the Working Class in England, The (book by Engels)

Engels, Friedrich, E:253

Conditional pardon

Convicts in Australia (Pardons), Cl:322 Conditioned reflex

Reflex action, R:179

Conditioned response

Cycad, Ci:509 with picture

Confessions of a New Boy book by Learning (Classical conditioning), L:137 Cone lanatomy Pavlov, Ivan Petrovich, P:221 Colour (How we see colour), Ch193 Hornel Horne, Donald, H:282 Conditioning Eye (The retina), E:437 with diagram Confessions of a Young Man book by Abnormal psychology (Theories of ab-Mammał (Sight), M:129 Perception (Receptors), P:277 Moore normal psychology), A:12 Moore, Clement Clarke, M:598 Behaviour (Behaviourism), B:202 Cone (geology) Confessions of an English Opium Paricutín picture on, P:174 Learning (How we learn), L:137 Psychology (Behaviourism), P:830 Vesuvius, V:351 with picture Eater Ibook by De Quinceyl De Quincey, Thomas, D:125 Psychotherapy (Behavioural psycho-Volcano (Kinds of volcano), V:418 with Confessions of Felix Krull, Confitherapy), P:832 picture Condom Cone [geometry], Cl:275 with diagram dence Man [book by Mann] AIDS (Prevention), A:180 Cone clusters Mann, Thomas, M:163 Birth control (Methods of birth con-Welwitschia, W:152 Confessions of Nat Turner, The book Cone shell [snail], Ck275 with picture by Styron] trol), B:368 American literature (Fiction and other Condominium housing Cone snail prose), A:320 Housing, H:329 Cone shell, Cl:275 United States (Urban life), U:196 Snail picture on, S:504 Confidence-Man, The book by Mel-Condor, Ch274 with pictures Coneflower ville] Bird picture on, B:315 Rudbeckia, R:442 Melville, Herman (His literary career), Condorcet, Marquis de French philos-Conestoga wagon Mi340 opherl, Cl:275 Westward movement picture on, Confidential Clerk, The [work by Ellot Age of Reason (Influence of the Age of W:197 Eliot, T. S., E:211 Reason), A:157 Coney Confirmation, Ci:277 Philosophes, P:419 **Нугах**, **Н:418** Rite of passage, R:288 Women's movement, W:294 Confectionery Roman Catholic Church, R:337 Conduct Sweets, So:478 with pictures Confirmatory method Behavlour, B:201 Confederate States of America, Statistics (Analysing the data), So:303 Etiquette, E:342 Cl:276 with map Conflict of interest, Ci:277 Religion (A code of conduct), R:198 Confederation Conformal projection Conducting Map (Map projections), M:187 Federalism, F:44 See Orchestra (The conductor) Confederation of British Industry Confraternity of Saint Joseph reli-Conduct of Life, The book by Mum-(CBI), CI:277 glous order) Confederation of Irish Industry (CII), De la Cruz, Apollinario, D:91 Mumford, Lewis, M:699 Ci:277 Confrontations [book by Beckett] Confederation of the Rhine [German Conduction Beckett, James Camlin, B:178 Electricity (Principles of electricity), history] Confucianism, Ci:277 E:168 Asia (Religions), A:630; (Social class) Germany (Conflicts with France), G:133 Heat, H:118 with diagram Napoleon I (Dominates Europe), N:21 A:639 Heating (Heat transfer), H:125 Confederation, Articles of China (Religion), C:444; (Beginnings of Insulation (Insulation for heat flow See Articles of Confederation Chinese civilization) C:458 Chinese literature (Beginnings), C:469 control), 1:269 Conference Conductive hearing disorder International relations (International Confucius, Cl:278 Deafness (Types of hearing disorders), Ethics (Ethics and religion), E:336 conferences and organizations). D:55 1:294 Han dynasty, H:38 Conductivity Conference calls Japan (Religion), J:44 Korea (Religion), K:323; (Early years) Bolometer, B:432 Telephone, T:108 Conference on Security and Cooper-Copper, Cl:341 K:327 Matter (Physical properties), M:263 ation in Europe (CSCE), Cl:277 Mencius, M:344 Conductor [electricity] Europe (Toward European unity), E:391 Philosophy (Oriental philosophy), Cable, C:4 Helsinki Accords, H:147 Copper, Cl:341 Confession [law], Ci:277 Religion (How the major religions are organized), R:200; (Confucianism) Electric circuit, E:143 Confession [religion] Electric current (Conductors and in-Roman Catholic Church (The seven P-202 sulators), E:143 Saint (Non-Christian saints), 5:27 sacraments), R:337 Electricity (table), E:168 Confession of 1967 [religion] Shinto, \$:360 Taoism (Taoism as a philosophyl, Tall Electrode, E:174 Presbyterians, P:763 World, History of the (Achievements | Electrolysis (How electrolysis works), "Confessional" poetry E:175 American literature (Poetry), A:319 China), W:341 Confucius and two disciples painting Electronics (Terms used in electron-Confession [book by Saint Patrick] ics), E:185 Patrick, Saint (His writings), P:217 by Kano) Heat (Electricity), H:116 Confessions (book by Augustine) Kano school, K:189 Confucius (Chinese philosopher), Ch278 Insulator, Electric, I:271 Augustine, Saint, A:745 Confessions [book by Rousseau] Ohm, 0:419 with portrait French literature (The Age of Reason), Conductor [music] Confucianism, Ci:277 Opera, 0:459 with picture Golden rule, G:240 Orchestra, 0:486 with picture; 0:488 Rousseau, jean-jacques, R:413 I Ching, 1:2 Cone-bearing plant Confessions of a Mask book by Mis-Kano school, K:189 Philosophy (Oriental philosophy), Conifer, Ci:285 with picture himal

Mishima, Yukio, M:508

P:422

Religion (Confucianism), R:202 Guided missile (Early development), C:120 Human body (Cells and tissues), Conga Rocket (Early rockets), R:322 Latin America (Dancing), L:86 H:350; (Organs and organ sys-Conga drum (percussion instrument), tems) H:351 Congreve, William (English dramatist), Ci:285 Muscle (Skeletal muscles), M:714 Cl:279 with picture Drama (European drama: 1660-1800), Congenital defect Tissue (Animal tissues), T:263 D:294 Connell, Desmond (Irish bishop), Birth defect, B:368 Ch290 Congenital disease Congruence Connemara Geometry, G:95 Disease, D:194 Heart (Birth defects), H:108 Triangle, T:397 Connacht, Ci:287 Connolly, James (Irish trade union Congenital dislocation of the hip Conic projection Map, M:188 with diagram leaderl, Ci:290 Dislocation, D:199 Conic sections Connolly, Patrick [Irish attorney gen-Hip, H:217 Cone. Ci:275 with diagram eral], Ci:290 Conger eel Connors, Jimmy American tennis Eel, E:95 Ellipse, E:217 Congestive heart failure Geometry (Analytic geometry), G:97 playerl, Ci:290 Hyperbola, H:411 Conolly, Philip [Australian missionary] Heart (Valvular disease), H:108 Conifer, Cl:285 with pictures Therry, John Joseph, T:218 Congleton [England], Ci:279 See also list of Related Articles Conquest of Granada, The book by Ir-Conglomerate [business], Ci:279 Earth (The Palaeozoic Era), E:27 Aviation (Aircraft manufacturing), Irving, Washington (Years in Europe), Plant (Sexual reproduction), P:558 with A:879 Merger, M:364 picture Conquest of Granada, The play by Tree, T:374 with pictures Conglomerate [geology] Drydenl Wood (Kinds of wood), W:299 Rock (Clastic sediments), R:308 Dryden, John, D:327 Coniferous forest Sedimentary rock, S:234 Conquest of Happiness, The (book by Congo, Cl:279 with picture and map Conifer, Ci:285 Plant, P:546 picture on P:548 Russell Brazzaville, B:547 Russell, Bertrand, R:461 Flag picture on, F:200 Tree, T:383 with picture Conquest of the Atlantic work by Stanley and Livingstone (Stanley's ex-Conjoined twins D'Aulaire) Multiple birth (How multiple births plorations), So:278 D'Aulaire, D:43 "Congo, The" [poem by Sandburg] оссиг), М:693 Conquistador [poetry by MacLeish] Siamese twins, S:405 American literature (Realist poetry), MacLeish, Archibald, M:21 Conjugation | bacteriology| A:317 Conquistadors [Spanish history], Cl:290 Congo River, Cl:281 with map Bacteria (How bacteria reproduce), Latin America (The conquest of the In-Congo (Economy), Cl:281 B:20 with pictures dians), L:89 River (table), R:290 Paramecium, P:169 Conjugation [grammar], Cl:286 Conrad I [king of Germany] Stanley and Livingstone (Stanley's ex-Germany (The break-up of Charleplorations), So:278 Inflection, I:231 magne's empire), G:130 Conjunction [grammar], Ch:286 Zaire (Rivers and lakes), Z:484 with Conrad III [Holy Roman emperor] Adverb (Conjunctive adverbs), A:59 picture Hohenstaufen, H:243 Congregationalists, Ci:282 Conjunctiva [anatomy] Conrad, Charles (Pete), Jr. (American Congress, Ci:282 Eye (Parts of the eye), E:435 with diaastronaut Legislature, L:156 gram; (Diseases of the outer parts) Space exploration (Other moon land-Congress-i Party [political party] E:441 with picture ings), So:153; (Skylab) So:155 India, History of (The Gandhi premier-Trachoma, T:323 Conrad, Joseph (Polish-born author), Conjunctivitis, Cl:286 ship), 1:119 Congress of Aix-la-Chapelle [1818] Cl:290 with portrait Chlamydia, C:474 Ford, Ford Madox, F:339 Alx-la-Chapelle, Congress of, A:220 Eye (Diseases of the outer parts), E:441 Novel (New directions in the novel), Congress of Berlin [1878] with picture N:313 Berlin, Congress of, B:255 Conjuring Congress, Cl:282 Magician (Kinds of magic), M:48 Conscience (psychoanalysis) Congress of Industrial Organizations Ego. E:99 Connacht [ireland], Ci:287 with pictures Conscientious objector, Cl:291 (CIO) and map Bridges, Harry, **B:569** Pacifism, P:17 Arms picture on, A:587 Conscious Lovers, The Iplay by Steelel Congress of Paris [1856] Connecticut [U.S.A.], Ci:288 with picture Congress, Cl:282 Drama, D:295 and map Steele, Sir Richard, So:310 Congress of the Confederation Connecticut Yankee, A Imusical com-Conscious proprioception Articles of Confederation, A:610 edy] Congress of the United States, Cl:282 Muscle sense, M:716 Hart, Lorenz, H:69 Connecticut Yankee in the Court of Consciousness with picture See also list of Related Articles Phenomenology, P:361 King Arthur, A [book by Twain] Psychoanalysis (Psychoanalytic theory), President of the United States (Roles of Twain, Mark (Success and fame), P:026 the President), P:769 T:479 Congress of Vienna [1814-1815] Subliminal, So:367 Connecting rod

Machine diagram on, M:11

petrol engine), P:332

Connective tissue [anatomy], Ci:289

Petrol engine (Parts of a reciprocating

Cancer (Classification by body tissue),

Conscription, Ci:291

Australia, History of, A:818

issue), C:102

Canada, History of (The conscription

United Kingdom, Armed services of

Congress, Ci:282

Ci:284

torl, Cl:285

Congreve, Richard (British essayist),

Congreve, Sir William (British inven-

Conservation tillage Conservation (Soil conservation),

Cl:293

Erosion (Controlling erosion), E:323 Conservationist, The book by Gor-

dimerl Gordimer, Nadine, G:257

Conservatism, Cl:305

Conservative Party, Ci:305 Judaism (Conservative Judaism), J:155

Right wing, R:277

See also Liberalism Conservative, The [newspaper]

Edinburgh (Transport and communications), E:77

Conservative Judalsm Judaism, J:155

Conservator

Conservative Party [UK], CI:305 See also list of Related Articles United Kingdom, Government of the (Political parties), U:113

United Kingdom, History of the (Developments in government), U:147; (The rise of the Labour Party) U:150; (The United Kingdom today) U:153

Archaeology (Recording and preserving evidence). A:502

Museum (Exhibition and care of materials), M:719

Conservatory of Music (Russia) Saint Petersburg (Education and cultural life), S:43

Consideration Contract, Cl:317

Consignee

Bill of lading, B:292

Consistence

Soil (Structure), So:21

Consolation of My Life's Miseries, The [work by Rousseau]

Rousseau, Jean Jacques (Later life), R:413

Consolation of Philosophy Ibook by Boethius

Boethius, Manlius Severinus, B:419 Console

Air conditioning (Kinds of air conditioners), A:193

High-fidelity system, H:196

Consonance

Music (Harmony), M:730 Poetry (Sounds), P:612

Consonant, Cl:306 Spanish language, So:192

Consort (title)

Prince consort, P:779 Queen, Q:11

Conspiracy, Ch306 Coup d'état, Cl:397

Conspiracy of Claudius Civilis [painting by Rembrandtl

Rembrandt (The last years: 1640-1669), R:211

Constable [police officer], Ci:306 Police (Police around the world), P:641

Constable, John [English painter], Ci:306 with picture

Painting (Romanticism), P:68; picture on P:71

Constance Missal (book), Ci:307

Constance of Castile [wife of] John of Gaunt, J:130

Constance of Sicily [wife of] Henry VI, H:154

Constance, Council of [1414-1418] Hus, John, H:389

John XXIII (antipope), J:128 Pope (The troubles of the papacy),

Roman Catholic Church (The Great Schism), R:341

Sigismund, S:414 Constance, Lake

See Lake Constance

Constance, Peace of Frederick I, F:428

Constancy

Perception (Principles of perception),

Constant [mathematics] Algebra (table), A:252

Constant Nymph, The ibook by Kennedyl

Constant of proportionality Geometry (Similarity), G:95

Proportion, P:809

Constant of proportions, Law of [chemistry]

Chemistry (Daiton's atomic theory), C:370

Proust, Joseph Louis, P:820

Constant Reader [book by Parker] Parker, Dorothy, P:187

Constant-speed propeller Aeroplane (Propellers), A:93

Propeller, P:808 Constant, Benjamin (French author)

Straël, Madame de, So:259 Constantan Thermometer (Electrical thermome-

ters), T:215

Constantine [Algeria], Ci:307 Constantine I [king of Greece], Cl:307

Greece (World War I), G:343 Constantine II [king of Greece], Ci:307

Constantine VII [Byzantine emperor] Byzantine Empire (Invasion and conquest), B:701

Constantine XI [Byzantine emperor] Byzantine Empire (The decline and end

of the empire), B:702 Constantine the Great (Roman Em-

perorl, Ch307 Byzantine Empire, B:699 with picture,

(Beginnings) B:701 Church, C:500 Eastern Orthodox Churches (History),

E:47 Istanbul (History), I:442

lerusalem (Roman rule), J:93 Julian, J:160

Lateran, L:75 Nicene Councils, N:198

Praetorian Guard, P:735

Rome, Ancient (Temporary recovery), R:382

Saint Peter's Church (History), S:42 Sylvester I, Saint, So:515

Constantine, Learie [Trinidadian crick eterl. Ci:307

Constantine, Arch of [ruins] Constantine the Great, Cl:307 Rome (Other remains), R:368 with pic

Constantine, Basilica of

Vatican City (History), V:317 Constantinople

Byzantine Empire (Beginnings), B:701 Crusades (The First Crusade), Cl:463 Greece (Ottoman Turkish rule), G:341

Istanbul, I:441 Library (The Middle Ages), L:231

Ottoman Empire, 0:519

Tulip, T:436

Turkey (History), T:462 World, History of the (The Byzantine Empire), W:344

Constantinople, Battle of

Army (table), A:593

Constellation [astronomy], Ci:308 with picture See also list of Related Articles

Kennedy, Margaret, K:218

Fixed star, F:197 Constellation [ship]

Aircraft carrier picture on, A:207

Perry, Oliver Hazard, P:289

Constipation, Ci:308

Laxative, L:123

Nutrition (Include fibre), N:364

Constituency

Election (Election campaigns), E:139

See also House of Commons

Constitution Act [Canada]

Canada, History of (Recent developments), C:106 with picture

Constitution, Cl:308

Canada, Government of, C:92

Government (Constitutional government), G:271

South Africa, Government of, So:73

South Africa, History of (The 1984 Constitution), So:86

Switzerland (The Constitution of 1848), So:501

See also Irish Constitution

Constitution Day

Puerto Rico (Recreation), P:847

Constitution of the United States

American literature (The revolutionary period), A:311

President of the United States, P:764 United States, History of the (Forming a new nation), U:242

Constitutional History of England, The book by Hallaml

Hallam, Henry, H:22

Constitutional law

Law (Branches of law), L:110; table on L:112

Constitutional monarchy

French Revolution (The National Assembly), F:452 Monarchy, M:541

Puritans (Puritan influence), P:867

Royal families, R:418

Constitutionalism

Political science, P:654

Constitution (ship), Cl:309 with picture

Constitutions of Clarendon [English historyl, Cl:309

Constrictor snake

Python, P:878 with picture Snake (Feeding habits), S:512

Construction [art]

Nevelson, Louise, N:106

Sculpture (Assemblages), S:216 with **Picture**

Construction engineering

See Engineering

Construction equipment, Ci:310 with pictures

Construction in the Egg | painting by Pevsner]

Pevsner, Antoine, P:355

Construction industry

See Building industry

Construction, Building

Building construction, B:626 with pictures

Constructional hill Hill, H:202

Constructive interference [physics] Diffraction (How diffraction occurs),

D:170

Interference, I:280 with diagram Light (Interference), L:260 with dia-

gram and picture Sound (Beats), So:52 with diagram

Constructive speech

Debate (Several types of debate), D:62

Constructivism [art]

Abstract art, A:16

Gabo, Naum, G:2

Consuelo [book by Sand]

Sand, George, S:70

Consul, Ci:312

City (Government), Ci:29

International relations (Diplomacy),

Rome, Ancient (Roman Republic),

Consultative Council on Postal Stud-

ies

Postal Union, Universal, P:716

Consumable electrode

Welding (Fusion welding), W:142

Consumer

Economics, E:61; table on E:65

Consumer cooperative

Cooperative, Cl:337

Consumer credit

Credit, Ci:420

Consumer goods

Economics table on, E:65

Gross domestic product (Measuring

the GDP), G:382 Industry (Other systems of classifica-

tion), 1:224 Manufacturing (Kinds of manufactur-

ing), M:167

Consumer magazine

Magazine (Kinds of magazines), M:40 with picture

Consumer Price Index, Ci:312

Cost of living, Cl:373 with diagram and table

See also Inflation

Consumerism, Ci:312

See also list of Related Articles

Consumption [disease]

Tuberculosis, T:432 with diagrams

Consumption [economics], Ch313 See also list of Related Articles

Economics table on, E:65

Contact [electronics]

Magneto, M:59

Contact copying

Photocopying, P435

Contact dermatitis

Skin (Inflammation), S:470

Contact inhibition

Cancer (In cell biology), C:123

Contact lens, Ch313 with pictures Eye (Defects of the eye), E:439

Contact metamorphism

Metamorphic rock, M:377

Contact method

Sulphuric acid (How sulphuric acid is made), So:403

Contact mine

Mine warfare (Kinds of naval mines), M:482

Contact point

Ignition (Development of ignition systems), I:29

Contact poison

Insecticide, I:263

Contact printing

Camera (View camera), C:58

Photography (Printing black-and-white photographs), P:454

Contagious disease

See Disease

Contagious magic Magic, M:45

Container

Bottle, B:484

Glass (Glass containers), G:190; (Soda glass) G:191; picture on G:193

Gutta-percha, G:433

Tin can, T:259

Container garden

Gardening (Kinds of outdoor gardens),

Container ship

Containerization, Cl:314

Ship, S:377 with picture

Transportation (Domestic freight),

T:358 with picture

Containerization, Cl:314 with picture

See also Container ship

Railway (Freight trains), R:99 Transportation (Domestic freight),

T:358

Containment policy

Cold War (Beginnings of the Cold War), Cl:160

Kennan, George Frost, K:215

Containment structure

Nuclear reactor (The safety system),

N:334

Contamination

Space exploration (Preparing the spacecraft), So:132

Conte [poem]

French literature (Lais and contes),

F-446

Conte Di Savoia (ship)

Gyroscope (Mechanical gyroscopes), CHAR

Conté, Lansana ipolitical leader) Guinea (History), G:415

Conte, Nicholas Jacques (French

chemist Pencil (History), P:255

Conteh, John British boxer Boxing (Professional boxing), B:498

Contemnor

Contempt, Cl:315

Contemplation Prayer, P:740

Contemplations, The [poetry by Hugo] Hugo, Victor Marie (Exile and return), H:343

Contemplative order

Religious life, R:207

Contemporary ballet

Ballet (Ballet today), B:58 with picture Contemporary Portraits book by

Pacific Ocean (The ocean floor), P:14

Continental slope

Ocean, 0:395

Continental System, Ci:317

tem), B:630 Sainte-Beuvel Milan Decree, M:463 Clothing (Manufacturing and selling) Contingent judgment [psychology] Sainte-Beuve, Charles Augustin, S:47 CI:107 Judgment (Kinds of judgment), J:158 Contemporary style Contrall, Ci:317 with picture Contingent truth [philosophy] Interior decoration (Style), 1:283 Age of Reason (The worship of rea-Contraito, Ci:318 Contempt [law], Ci:315 Witness, W:283 son), A:156 Opera (The singers), 0:458 Singing (Voice classification), \$:454 Metaphysics (Possibility and neces-Contempt [film] Godard, Jean-Luc, G:225 sity), M:379 Contras [rebels] Contino. Antonio Italian architectl Honduras (Recent developments). Content word Bridge of Sighs, B:569 H:263 English language (Grammar), E:281 Contes [book by La Fontaine] "Continuation War, The" Nicaragua (Recent developments). La Fontaine, Jean de, L:14 Finland (World War II), F:122 Russo-Finnish wars, R:502 Ortega, Daniel, 0:506 Contiguity, Law of [philosophy] United Nations (The Nicaraguan con-Continuing education Association, A:673 Hume, David, H:366 Education (Adult education), E:84 flict), U:179 United States, History of the (The Rea-Continent, Ci:315 Open University, 0:455 Earth (The earth's surface), E:19; (The gan years), U:263 Continuo (music) Classical music (The baroque period), shaping of the continents) E:25 Contrast agent Ocean, 0:386 □:60 Angiography, A:366 Plate tectonics, P:584 Continuous creation Computerized tomography, Cl:271 Races, Human (The geographical-race Hoyle, Sir Fred, H:335 Radiology, R:91 theory), R:44 Continuous mining machine Contrast Coal (The room-and-pillar system), World (Land), W:328 with map Classical music (Classical music Continental Congress, Ci:315 Ci:125 with picture forms), Ci:58 American Revolution (The First Conti-Continuous spectrum Design, D:134 nental Congress), A:324; (The Light (Electromagnetic waves), L:259 Contrast [photography] Film industry (Preparing to shoot), F:86 Declaration of Independence) Continuous-wave laser A:326 Laser (Types of laser), L:73 with picture **Continental** crust Continuous-wave radar Contrast, Law of [psychology] Earth (The earth's crust), E:19 Radar, R:59 Association, A:673 Continental divide, Cl:316 Contour feather Contributory negligence See also Great Divide Feather (Kinds and parts of feathers), Negligence, N:69 River (The source of a river), R:289 F:41 with diagrams Control board Rocky Mountains, R:326 Radio (Radio stations), R:73; (From Contour map United States (The Rocky Mountains), Map pictures on, M:184 electric waves to radio waves) U:210 Photogrammetry pictures on, P:439 R:75 Continental drift, Cl:316 with diagram Contour ploughing Control centre Satellite, Artificial (Performing the mis-Earth (The shaping of the continents), Conservation (Soil conservation), Cl:293 with picture sion), 5:98 Indian Ocean (The ocean bed), 1:171 Dry farming, D:327 Control circult Ocean (How the sea floor was formed). Erosion (Controlling erosion), E:323 Electronics (How electronic circuits process information), E:190, E:181 0:398Contouring Plate tectonics (History of tectonic the-Hydrofoil (Kinds of hydrofoils), H:401 Control column ory), P:587 Contra bassoon Helicopter (Piloting a helicopter), Prehistoric animal (The distribution of Bassoon, B:144 H:139 with picture mammals), P:748 Contraband, Ci:317 Control group Setsmology, S:242 High seas, H:199 Placebo, P:530 Psychology (Experimentation), P:829 Continental glacier Right of search, R:276 Glacier, G:173 with picture See also Blockade Control rod Continental island Contrabass Boron, B:471 Island, I:422 with diagram Bass, B:142 Gadolinium, G:4 Continental margin Contraceptive Nuclear energy (Power reactors), Ocean, **0:395** Birth control (Methods of birth con-NEW 24 Nuclear reactor, N:333 with diagrams Continental Op, The book by Hamtrol), B:367 mettl Contraceptive implant Control room Hammett, Dashiell, H:32 Birth control (Methods of birth con-Radio (Radio stations), R:73 Television (The control room), T:124 Continental rise trol), B:367 Ocean, 0:398 Contract [law], Cl:317 with pictures Continental shelf Law (Branches of law), L:110; (table) Control stick Aeroplane (The controls and Instru-Arctic Ocean (The ocean bed), A:545 1:112 Atlantic Ocean (The ocean bed), A:718 Tort, T:306 ments), A:93 Earth map on, E:19 Contract bridge Control system Fishing industry (Sea fisheries), F:188 Bridge, **B:567** Car, C:157 with diagrams Guided missile (Guidance and control Indian Ocean (Ocean floor), 1:171 Contraction [economics] Ocean, O:395 Recession, R:161

Contraction [physics]

Contractor

Heat (Changes in size), H:119

Building trade (The contracting sys-

systems), G:407

Airport, A:212; picture on A:210

Computer (Processing data), Ch259

Control tower

Control unit

Controllable pitch propeller Aeroplane (Engineering improve-

ments), A:83; (Propellers) A:93 Controlled experiment

Statistics (Collecting the data), So:302

Controlled substance

Opiate, 0:476

Controller

Automation (How automation works),

A:874

Flevated railway, E:209

Controlling pollution

Environmental pollution (Controlling pollution), E:305; History E:308

Conundrum

Riddle, R:272

Conure [bird]

Parrot (Kinds of parrots), P:200

Convair B-58 Hustler

Aeroplane picture on, A:85 Aeroplane (Supersonic aeroplanes), A:B6

Convection

Cloud (How clouds form), Cl:110 with pictures

Heat, H:118 with diagram

Heating (Heat transfer), H:125

Convection current

Plate tectonics (Causes of plate movement), P:586

Convection oven

Cooker (History), Ci:333

Convector

Heating (Central heating systems), H:125

Convenience food

Cooking (Planning time-saving meals), Ch334

Food (Sources of food), F:294

Convenience, Flag of

Ship (Merchant fleets of the world),

S:384 Convent [religion], CI:318

Monasticism, M:544

Nun, N:350

Women's movement (During the Middle Ages), W:294 Convention

See Political convention

Convention on International Trade in **Endangered Species of Wild** Fauna and Fiora Bird (Protective laws and treaties),

B:355

Convention on the Conservation of **Migratory Species of Wild Ani-**

Bird (Protective laws and treaties),

Convention on Wetlands of International Importance

Bird (Protective laws and treaties), B:355

Convention People's Party (political Ghana (History), G:147

Conventional car

Transmission, T:341 with diagram Conventional circuits

Electronics (Types of electrical circuits). E:186

Convergence [mathematics]

Series (Working with infinite series), 5:270

Convergence zone

Glider (Soaring), G:208

Convergent evolution

Jerboa, J:84

Converging lens [optics] Lens, L:174

Conversation piece [art] Gainsborough, Thomas, G:8

Conversion

Coal (Coal research), Cl:132 Petroleum, P:349 with diagram

Conversion (sports)

Rugby football (Scoring), R:444; R:446

Converter (electricity), Cl:318

Radio (Amplifiers), R:77 with diagram

Convertibility |money|, Cl:318 Convertiplane

See V/STOL

Convex lens [optics]

Aberration, A:11 with diagram Eye (Longsightedness), E:439

Glasses (Prescription glasses), G:202 Lens (Converging lenses), L:174

Convex mirror

Mirror, M:507 with diagram

Conveyancing [law], Ci:318

See also Contract; Easement; Estate; Torrens system

Conveyor belt, Cl:319 with pictures

Assembly line, A:672

Coal picture on, Ci:126; (The room pillar system) Ci:127

Construction equipment (Hoisting and material-handling machinery), Ci:310

Newspaper picture on, N:184

Convict

Convicts In Australia, Cl:320

First Fleet, F:148

Immigration (1700-1820, Colonies and convicts), 1:36

Macquarie, Lachian (Convict reform), M:23

New South Wales (History), N:133 with picture

Phillip, Arthur, P:416, P:418

Port Arthur, P:692

Squatters in Australia (The first squatters), So:249

Tasmania (History), T:59 with picture Transportation, T:362

Victoria (History), V:364 Western Australia, W:182

Convicts in Australia, Ch320 with pic-

tures and map See also list of Related Articles

Convoy, Ci:325

World War I (The United States enters the war), W:372

World War II (The Battle of the Atlantic), W:387

Convulsions [disorder], Ch325

First aid (Convulsion and epileptic seizure), F:145

See also Epilepsy

Conway cabal (U.S. history)

Cabal, C:2

Conway, Thomas [American general] Cabal, C:2

Conway, William Cardinal [Irish religious leaderl, Cl:325

Conwy [Wales]

Aberconwy, A:9

Gwynedd (Places to visit), G:439

Cony

Hyrax, H:418 with picture Coober Pedy [Australia], Ci:325

Cooee bird

Cuckoo, Cl:486

Cook Islands, Ch332 with maps

Cook, Frederick Albert (American explorerl, Cl:325

Exploration (Polar exploration), E:427 Mount McKinley, M:660

Peary, Robert Edwin (Dispute over Peary's claim), P:237

Cook, James British explorerl, Ch326 with portrait, pictures and maps

See also list of Related Articles Antarctica (Discovery of a new continent), A:442

Auckland (History), A:737 Australia, History of, A:794; (First sightings) A:797 with pictures

Banks, Sir Joseph, B:96

Botany Bay, B:481 Cook Islands, Ci:332

Fiji (History), F:78

Hicks, Zachary, H:192

Magnetic Island, M:52 Moreton Bay, M:605

Mount Cook, M:656

New South Wales (History), N:133 New Zealand, History of (Cook's voy-

ages), N:166 with map

Niue (History), N:224

Norfolk Island, N:241

Pacific Ocean (Exploration), P:15

Possession Island, P:710

Tonga, T:293

Victoria (History), V:364

Wellington (History), W:147

Cook, Mount

See Mount Cook

Cook, Sir Joseph [Australian statesman], Ci:332

Cook, Thomas [British businessman], Cl:332

Tourism (History), T:312

Cooke-Wheatstone telegraph Telegraph, T:102 with picture

Cooke, Edward (British sea captain) Selkirk, Alexander, S:245

Cooke, William F. [British physicist]

Invention (The Industrial Revolution), Telegraph (Development of the tele-

graph), T:102 Wheatstone, Sir Charles, W:226

Cooker, Cl:332 with pictures

Cooking, Ci:334 with pictures See also list of Related Articles

Pressure, P:771

Cooper, James Fenimore [American

American literature (The romance),

authorl, Cl:336 with portrait

Mathematics (Mathematics and the A:314 Solar energy (Solar cooking), So:25 Starch (Use in foods), So:293 Cooper, Kenneth [American doctor] scientific revolution), M:260 Physics (The Renaissance), P:474 Running, R:458 Cookstown [Northern Ireland], Cl:335 Planet (Explaining the motion of the Cooper, L. Gordon American astro-Cooktown [Australia] planets), P:537 nauti Cook, James (The Great Barrier Reef), Copernicus, Nicolaus [Polish astrono-Space exploration (Vostok and Mer-CI:329 merl, Ci:339 Cool jazz [music] cury: The first human beings in Astronomy picture on, A:696; The be-Davis, Miles, D:48 space), So:145 with picture ginnings of modern astronomy Getz, Stan, G:145 Cooper, Leon N. [American physicist] Bardeen, John, B:109 Jazz, J:77 Cool Million. A [book by West] Nobel Prizes (Physics), N:227 Evening star, E:404 Superconductivity, So:427 Galileo (Early scientific interests), G:13 West, Nathanael, W:156 Coolabah itreel Cooper, Sir Astley Paston British sur-Geology (The Renaissance), G:92 geon], Cl:336 Mathematics (Mathematics and the Eucalypts picture on, E:348 Coolant Cooper, Susan [British author], Ch336 scientific revolution), M:260 Moon (table), M:595 Nuclear reactor, N:334 Cooperage Physics (The Renaissance), P:474 Cooley's anaemia Barrel, B:118 Thalassaemia, T:185 Cooperative, Ci:337 Planet (Explaining the motion of the See also list of Related Articles planets), P:537 Coolgardie [Australia], Ch335 Science (The rebirth of science), \$:146 Western Australia (Visitors guide), Collectivism, Cl:165 W:176 Universe (Changing views of the uni-Housing, H:329 Coolidge tube Owen, Robert, 0:526 verse), U:265 See X rays Cooperative insurance company Copernicus (spacecraft) Coolidge, Calvin IU.S. presidentl, Insurance (Types of insurance compa-Astronomy (Space exploration), A:699 Ci:335 nies), 1:275 Coping saw Cooling system Coordinate [mathematics] Saw (Handsaws), S:116 with picture Air conditioning, A:190 with diagram Algebra (Functions), A:257 Woodworking (Cutting), W:307 Car, C:156; (Comfort and convenience Copland 1900 Through 1942 book by Coordinate system systems) C:158 Geometry (Analytic geometry), G:97 Copland) Petroi engine, P:332 Copland, Aaron, Ci:340 Coordinates [geography] Copland Since 1943 (book by Copland) Cooling tower Latitude, L:100 Coordinating conjunction [grammar] Electric power (Fossil-fuelled steam Copland, Aaron, Ch:340 Copland, Aaron [American composed, electric power stations), E:158 Conjunction, Ci:286 with diagram Coorong [Australia], Cl:338 Ci:340 Nuclear energy (Steam production), Copley, John Singleton American South Australia (The Lower Murray N:325 painterl, Ci:340 with picture Basin), So:108 Nuclear reactor (Reactors and the envi-Coot, Ci:338 with picture Copolymerization ronment), N:334 Rail, R:96 Polymerization, P:661 Technology (Combating undesirable Coppard, A. E. [British poet], Ci:341 Cop [police] effects), T:87 Police. P:639 Coppélia [ballet] Cooling vent Art and the arts picture on, A:603 Copacabana Beach (Rio de Janeiro) Bailoon (Hot-air balloon), B:62 Latin America picture on, L:76 Delibes, Léo, D:98 Coolins Rio de janeiro (The city), R:280 Copper, Ci:341 See Cuillin Hills Copán [ancient city] See also list of Related Articles Coon Armenia (Economy), A:581 Honduras (The Indian period), H:263 See Raccoon with picture Azurite, A:902 Chile (The Northern Desert), C:420; Coona Booloo Maya (The Mayan heritage), M:281 Orange [Australia], 0:483 (Mining) C:423 with picture Cope [manufacturing] Electrolysis (Uses of electrolysis), E175 Coonhound Cast and casting (How castings are Black and tan coonhound, B:374 made), C:231 with diagram Flame test, F:218 Dog picture on D:229 Copeland [England], Cl:339 Metal (Metals through the ages), Cooper Copeland, William Taylor English M:374 Barrel, **B:118** Metallurgy (Electrolysis), M:376 businessman), Ch339 Cooper Creek [Australia], Ch336 with Copenhagen [Denmark], Ci:339 with Mineral picture on, M:484 picture Mining, M:491 with picture picture Cooper, Anthony Ashley (1621-1683) Plant (Nutrient deficiencies), P:567 Denmark, D:108 with picture [British statesman] Copenhagen, Battle of Trace elements, T:322 Zaire (Mining), Z:484 with picture Locke, John (His life), L:350 Neison, Horatio, N:72 Zambia (Economy), Z:488 with picture Shaftesbury, S:296 Copepod [crustacean], Ch339 Cooper, Anthony Ashley (1801-1885) Animal picture on. A:394 Copper [insect] Crustacean, Ci:465 with picture Butterfly (Blues, coppers, and hair [British statesman] streaks), B:682 with pictures Shaftesbury, S:296 Ocean (The plankton), 0:391 with pic-Cooper, Gary [American film actor], Insect picture on, I:244 Ci:336 with portrait Copernican Revolution Copper [police] Film industry (Best performance by an Astronomy (The beginnings of modern Police, P:639 actor), F:96 astronomy), A:697

Copernican theory

Galileo, G:13

Brahe, Tycho, B:507

Copper mining

Copper (Sources of copper), Cl:341

Queensland picture on, Q:23

with diagram

See also Copper

Copper-wheel engraving

Glass (How glass is decorated), G:195 with picture

Copper wire

Copper, Cl:343

Copperbelt

Zambia (Economy), Z:488

Copperhead [reptile], Cl:344 with pic-

Coppola, Francis Ford (American film directorl, Ci:345

Coppolani, Xavier [political leader] Mauritania (History), M:269

Copra, Ci:345

Caroline Islands, C:206 with picture Coconut palm (The coconut), Ch:143 Fiji (Agriculture), F:77

Pacific Islands (Agriculture), P:12 with

Tonga (Economy), T:294 with picture

Coprolalia (disorder)

Tourette syndrome, T:311

Coptic Christian [religion]

Copts, Ci:345 Egypt (Religion), E:109

Coptic language Copts, Cl:345

Rosetta stone, R:401

Copts ireligious groupl, Ci:345

Arabs (Religion), A:490

Cairo (People), C:17

Doll (The Middle Ages), D:245

Egypt (Religion), E:109

Copulative verb [grammar]

Verb (Linking or copulative, verbs), V:344

Copulatory sac

Butterfly (The reproductive system), B1587

Copy

Advertising (Creative work), A:64 Magazine (Editing and assembling an issue), M:41

Newspaper (table), N:183

Copying machine Photocopying, P:434

Copyright [law], Ci:345

Book (Inside a book), B:453

Library of Congress, L:236

Library (Photocopying), L:215

Plagiarism, P:531

Publishing (Acquiring the manuscript), P:844

Copywriter

Advertising (Creative work), A:64 Clothing (Fashion writers and artists), Cl:108

Coqui (animal)

Puerto Rico (Animals and plants), P:RAR

Cor anglals

Music (Woodwind instruments), M:728

Coral, The [play by Kaiser] Kaiser, Georg, K:180

Coral Battleground, The work by Wright

Wright, Judith, W:418

Coral, Cl:347 with pictures Animal picture on, A:395

See also Coral reef

Coral cay [geography]

Great Barrier Reef (Physical features), G:312

Coral gum [tree]

Eucalypts picture on, E:349

Coral Island, The (book by Ballantyne) Ballantyne, R. M., B:45

Coral island

Antiqua and Barbuda (Land and climate), A:461

Barbados (Land and climate), B:102 Island, I:423 with diagram

Virgin Islands, British (Land and climate), V:402

Coral polyp

Coral (How coral is formed), Ci:348 Great Barrier Reef (Marine life), G:313

Coral reef

Australia (The Great Barrier Reef), A:764 with picture

Coral, Cl:347 with picture

Fish pictures on, F:162

Great Barrier Reef (Marine life), G:313 with picture

Island (Coral islands), 1:423

Pacific Islands (The low islands), P:8 with picture

Rock (Organic sediments), R:308

Coral Sea, Cl:349

Pacific Ocean (Coastline and islands),

Coral Sea Islands, Ci:349

Coral Sea, Battle of the

Air force (Famous air battles), A:199 Navy (Famous sea battles), N:60

World War II, W:397

Coral Sea Ishipi

Aircraft carrier (The modern carrier fleet), A:205

Coral snake, Cl:349 with picture Snakebite (Snake poisons), 5:518

Coral tree, Ci:350

Coral trout

Fish picture on, F:175

Coralline algae

Great Barrier Reef (Marine life), G:313

Coranto [publication]

Communication (The 1600's and 1700's), Cl:231

Corax [Greek orator]

Oratory (Beginnings), 0:484

Corbett National Park [India]

Uttar Pradesh (Places to visit), U:291

Corbett, James John [American boxer] Boxing picture on, B:495; (From bare knuckles to gloves) B:498; (table) B:499

Solar plexus, So:26

Corbusier

See Le Corbusier

Corby [England], Cl:350

Lincolnshire (Places to visit), L:288

Corcium nigrescens

Orchid picture on, 0:490 Corcovado Mountain [Brazil]

Rio de Janeiro (The city), R:280

Cord and cordage

Macramé, M:24 with picture

Rope, R:394

Cord (glass)

Glass (Glass terms), G:200

Cord lunit of measurel, Ci:350 with picture

Cord quilt

Quilt, Q:29

Corday, Charlotte (French patriot),

French Revolution (The National Convention), F:453 Cordial

Alcoholic beverage (Liqueurs), A:238

Cordillera, Ci:350

Canada (The Rocky Mountains), C:81 Costa Rica (The land and climate).

Cl:376

Cordillera Central (mountains)

Dominican Republic (Land and climate), D:259

Cordillera Neo-Volcánica

Mexico, M:410

Cordillera Septentrional mountainsi Dominican Republic (Land and cli-

mate), D:259

Cordilleran geosyncline

Earth (The Palaeozoic Era), E:27

Cordite, Cl:350

Córdoba, Francisco Fernández de

[Spanish explorer]

Mexico (The Spanish conquest), M:418

Córdoba [Spain], Cl:351

Córdoba (Argentina), Cl:350

Córdova, Roberto Suazo [Honduran political leaderl

Honduras (Recent developments),

H:263

Corduroy [fabric], Cl:351

Core [botany]

Root (Parts of a root), R:393

Core (electromagnetism)

Electromagnet, E:176

Transformer, T:339 with diagram

Core (geology)

Earth (Inside the earth), E:20 with diagram

Core [Nuclear reactor]

Nuclear energy (Power reactors),

Nuclear reactor, N:332 with diagram

Core [sun] Sun (table), So:410; (The sun's interior)

So:414 with diagram

Core thread

Thread (Making thread from manufactured fibres), T:229

Corelli, Arcangelo (Italian composer),

Corelli, Marie (English author), Ci:351 Coreopsis, Ci:351 with picture

lonian Islands, **I:327** with map

Corqi

Cardigan Welsh corgi, C:195 Pembroke Welsh corgi, P:250

Coriander, Ci:351

Coring

Corn Laws, Ci:357

Manchester (History), M:146

Peel, Sir Robert, P:242

Corn oil [food], Ci:357

Corn plaster

Petroleum (Well testing), P:345

(Savannah and Charleston) A:328 Corinth [Greece], Ci:351 Corn poppy (Camden) A:328; (Surrender at Corinth Canal [Greece], Ci:352 with pic-Poppy, P:682 Yorktown) A:328 Corn syrup, Ci:357 Washington, George (Winning the Corinthian column Glucose, G:215 Corn [poetry by Lanier] war), W:61 Acanthus, A:18 Architecture (table), A:514 with pic-Lanier, Sidney, L:55 Cornwallis, Edward, Ci:360 Corolla ture; (Classical Greek architecture) Corncrake Flower, F:261 with diagram A:521 Crake, Ci:413 with picture Plant (Flowers), P:555 with picture Column, Ci:213 with picture Cornea Blindness (Corneal opacity), B:388 Corona (astronomy), Cl:360 with picture Corinthians, Epistles to the New Testamentl, Cl:352 Eclipse (Solar eclipse), E:54 Cataract, C:257 Solar wind, So:28 Coriolanus, Gaius Marcius [Roman Conjunctivitis, Cl:286 generall, Ci:352 Contact lens, Ci:313 Sun (table), So:410; (Above the sur-Eye, E:435 with diagram face) So:415 with pictures Coriolanus (play by Shakespeare) Shakespeare, William, \$:320 Eye bank, E:445 Coronado, Francisco Vásquez de Coriolis effect, Ci:352 First aid (Eye injury), F:146 [Spanish explorer], Ci:361 with pic-Air (Air movement), A:185 Laser (Heating), L:71 ture and map Weather (General circulation of the at-Myopia, M:749 Exploration (table), E:421; (Spain's conmosphere), W:113 Tears, T:80 quests in the New World) E422 Corish, Brendan (Irish political leader) Trachoma, T:323 Indian, American (After European con-Labour Party, L:4 Corneal graft tact), 1:159 Coritani Eye (Diseases of the corneal, E:442 Coronado's Children (book by Doble) Leicestershire (History), L:160 Corneal opacity Dobie, J. Frank, D:219 Cork [bark], Cl:355 with pictures Blindness, B:388 Coronagraph Bark (Outer bark), B:111 Corneal transplant Corona, Ch:361 Leaf (The leaf becomes fully grown), Blindness (Corneal opacity), B:388 Sun (Modern solar study), So:421 Eye bank, E:445 Coronal hole Stem (Woody stems), So:316 Eye (Diseases of the cornea), E:442 Corona, Cl:361 Tree (Trunk and branches), T:377 with Tissue transplant (Types of trans-Magnetic storm, M:53 diagram plants), T:263 Coronal streamer Cork [city, Ireland], Ci:355 Corneille, Pierre [French dramatist], Corona, Ci:361 Ireland (Ancestry and population), Ci:357 Coronary angioplasty 1:354 Drama (French neoclassical drama). Heart (Treatment), H:105 Cork icounty, Irelandl, Cl:353 with map Coronary artery and picture French literature (Classical drama), Aorta, A:469 Arms picture on, A:587 F:447 Artery (Principal arteries), A:606 Cork helmet Cornellan (gem), Ch357 Fat (Fats and disease), F:33 Helmet, H:146 Cornell, Ezra (American businessmanl, Heart (Blood vessels), H:102; (Heart Cork oak Ci:357 terms) H:102 Cork (The tree), Cl:355 with picture Cornet (musical instrument), Ch358 Coronary artery bypass Oak (Kinds of oaks), 0:372 Heart (Treatment), H:105 with picture Cornflour, Ci:358 Corm, Cl:356 and diagrams, (Development of Maize (The dry-milling industry), M:74 Botany (table), B:481 Maize (The wet-milling industry), M:74 heart surgery) H:112 Bulb. B:632 Starch (Use in foods), So:293 Surgery (Cardiothoracic surgery), Crocus, Cl:449 Sugar (Cornflour and other starches). 56(439) Gladiolus, G:176 So:391 Coronary artery disease Stem (Specialized stems), So:316 Cornflower, Ch358 with picture Electrocardiograph, E:173 Water chestnut, W:85 Heart (Heart terms), H:102; (Coronary Cornhusker State Cormac mac Airt [king of Ireland] Nebraska, N:64 artery disease) H:104 Ireland, History of (The Celts), 1:366 Corning Ewer Nutrition (Heart disease), N:367 Cormel [botany] Glass picture on, G:197 Coronary bypass (surgery) Corm, Ci:356 Medicine (The medical revolution), Cornu, Paul [French inventor] Helicopter (Early designs and experi-Cormorant, Cl:356 with pictures M:317 Corn [cereal] ments), H:141 Coronary heart disease See Maize Cornucopia [symbol], Cl:358 Fat (Fats and disease), F:33 Corn [disorder], Cl:356 Paper bag, P:137 Heart (Heart attack), H:106 Callus, C:43 Cornwall [England], Ch358 with map Coronary occlusion Skin (Other skin disorders), \$:471 and pictures Coronary thrombosis, Cl:362 Corn borer (insect), Ci:357 Coronary thrombosis, Ci:362 See also list of Related Articles Blood (Controlling bleeding), B:397 Corn is Green, The [film] Arms picture on, A:585 Davis, Bette, D:46 North Cornwall, N:260 Heart (Heart attack), H:106 Corn is Green, The [play by Williams] Cornwall, David John Moore Coronation, Ci:362 Williams, Emlyn, W:256 See also list of Related Articles Le Carré, John, L:148

Cornwall, Duchy of, Ch360

Ci:360 with picture

Cornwallis, Charles (British soldier).

Cornwall, Duke of Prince of Wales, P:779 **Coronation Chair**

ture

[painting by Rubens]

Westminster Abbey, W:195 with pic

Rubens, Peter Paul, R:440 with picture

Corn [disorder], Ci:357

American Revolution (Trenton), A:326:

Caronation of Poppea, The lopera by Monteverdi] Monteverdi, Claudio, M:577

Cerenation of the Virgin [painting by Belline]

Bellini, Giovanni picture on, B:230

Coronation ring

Crown Jewels (Other royal ornaments), Cl:461 with picture

Coronation Stone

Kingston upon Thames, K:284

Coroner, Cl:363 Autopsy, A:876

Inquest, 1:239 Procurator fiscal, P:794

Treasure-trove, T:369

Coroners' court

Australia, Legal system of, A:828

Coroner's inquest Inquest, I:239 Coroner's jury

See lury

Corot, Camille (French artist), Ci:364 Barbizon School, B:107

Painting (Realism), P:71 with picture

Realism (In painting), R:160 Corporación de Fomento de la Pro-

duction [Chilean history]

Chile (Years of progress), C:426 Corporate income tax

Taxation (Income taxes), T:69 Corporation Act [1661]

Test Acts, T:160

Corporation, Ci:364

See also list of Related Articles Fascism (Economic life), F:30

Corporation of the City of London, Ci:38

Corporative state,

See Fascism (Economic life)

Corps [army unit], Ch364 Corps de ballet

Ballet (table), B:48 Corpse

Funeral customs (Preparing the body), F:484

Corpus callosum

Brain (The cerebrum), B:511; (The work of the brain) B:514

Corpus Juris Civills

Justinian Code, J:174 Justinian I, J:174

Law (Systems of law), L:111; (Ancient Roman law) 1:113; (The Middle Ages) L:114

Corpus luteum

Oestrous cycle (Hormonal regulation), 0:414

Corpus striatum

Brain (The brain's chemical messengers), B:516

Corpuscie [physiology], Cl:364 Correctional centre

Prison (Types of prisons), P:789 Correggio Iltalian painterl, Ci:364

Corregidor lisland, Philippinesl, Ci:365 Bataan Peninsula, **B:149** with maps

Manila Bay, M:161 Correlative conjunction (grammar) Conjunction (Conjunctions in pairs),

Correns, Carl [German scientist] Cell (The 1900's), C:303

Heredity (The birth of genetics), H:174 Correspondence Igeometryl

Geometry (Congruence), G:95 Correspondence school, Ci:365

"Correspondences" (poem by Baude-

Baudelaire, Charles, B:158 Symbolism, So:516

Correspondent

War correspondent, W:34

Correspondent

Open University, 0:451

Corroboree, Ci:365 with picture Australian Aborigines, A:837

Corrosion, Cl:365

Copper (Resistance to corrosion),

C:341

Electrochemistry, E:174

Galvanizing, G:18 Oxidation, 0:535

Reduction, R:177

Rust, R:504 Corrosive poison

Poison (Kinds of poisons), P:620

Corrupt practices, Cl:366

Corsac fox

Fox (Kinds of foxes), F:360

Corsage

Florist picture on, F:236

Corsair Algeria (Ottoman rule), A:265

Libya (Early days), L:239 Morocco (Corsairs and sharifs), M:615 Pirate, P:519

Corsica, Cl:366 with map and picture France, F:406

Napoleon (Boyhood), N:18

Cort, Henry (British inventor) Industrial Revolution (The revolution

in ironmaking), I:214 Cortázar, Julio iArgentinian authori

Latin-American literature (Recent developments), L:97 Cortés, Hernando (Spanish conqueror),

Cl:367 with portrait, picture and Alvarado, Pedro de, A:296

Chocolate (History), C:477

Conquistadors, Ci:290

Exploration (table), E:421; (Spain's conquests in the New World) E:422

Indian, American (Indians of Middle America), I:160; (In Latin America) 1:164

Latin-American literature (Colonial literature), L:95

Mexico (The Spanish conquest), M:418 Montezuma II, M:577

Cortex lanatomy

Adrenal gland, A:57 with diagram Hair (The root and shaft), H:11 with diagram

Hormone (Metabolic hormones), H:278 Kidney (How the kidneys produce urine), K:244 with diagram

Cortex [botany]

Potato (The potato plant), P:719 Root (The outer tissues), R:393 with di-

Stem (Herbaceous stems), So:315 with diagram

Corticosteroid

Cortisone, Cl:368 Eczema, E:74

Corticosterone

Hormone (Metabolic hormones),

Steroid (The adrenal steroids), So:320

Cortisol

Adrenal gland, A:57

Hormone (Metabolic hormones),

Steroid (The adrenal steroids), So:320

Cortisone, Cl:368

Hormone (Metabolic hormones),

H:270

Plant (Medicines), P:542

Steroid (The adrenal steroids), So:320

Corundum [mineral], Cl:368

See also list of Related Articles

Corvée

Egypt, Ancient (Government), E:127 Corvette

Convoy, Cl:327 Warship (Frigates), W:44

Corymb (botany)

Inflorescence, 1:232 with picture

Corythosaurus

Dinosaur (Ornithischians), D:179, D:180; pictures on D:177

Cos lettuce

Lettuce (Kinds of lettuce), L:194 with picture

Così Fan Tutte (opera by Mozart) Mozart, Wolfgang Amadeus (His style),

Cosby, Bill [American entertainer], Cl:368 with portrait

Cosby, William Henry, Jr. Cosby, Bill, Cl:368

Cosgrave, Liam (Irish statesman), CI:369

Cosgrave, William Thomas lirish statesmanl, Cl:369

Cosimo de' Medici

See Medici, Cosimo de'

Cosine [mathematics] Trigonometry, T:401

Cosmetic surgery Plastic surgery, P:576

Cosmetics, Ci:369 with picture Egypt, Ancient (Food, clothing, and shelter), E:122

Theatre (Costumes and makeup), T:200; (Makeup techniques) T:201 with pictures

Cosmic Buddhas

Buddhism, B:618

Cosmic rays [physics], Ci:370 with diagram

Radiocarbon, R:90 Thermosphere, T:217 Van Alien belts, V:305

Shakespeare, William (Costumes and

sound effects), S:307

Theatre, T:200 ture Wilson cloud chamber, W:263 Tajikistan (Economy), T:14 Costume doll Cosmology [astronomy], Cl:372 Texas (Economy), T:168 Doll, D:244 Extraterrestrial intelligence, E:434 Uzbekistan (Economy), U:294 Costume jewellery Gamow, George, G:26 Cotton gin, Ci:390 with picture Universe (Changing views of the uni-Jewellery (Modern jewellery), J:111 Cosyns, Max [Swiss physicist] Agriculture (The invention of new farm verse), U:265 equipment), A:173 with picture Balloon (Manned exploration of the Cosmology [philosophy] Invention (Why people invent), 1:310 God (Ideas about God), G:225 stratosphere), B:64 Textile (The Industrial Revolution). Philosophy (Metaphysics), P:420; Cot death (table) P:421 Sudden infant death syndrome (SIDS), Whitney, Eli, W:240 Cosmonaut So:385 Astronaut. A:681 with pictures Cotabato (Philippines), Cl:379 Cotton gin Cotton (Ginning and baling), Cl:386; Space exploration, So:128; (Space ex-Cotangent pioration terms) So:130 Trigonometry (Right-angled triangles), (American colonists) Cl:388 Cosmos [plant], Ci:372 **Cotton industry** Manchester (History), M:146 Cosmos [universe], Ci:372 Côte d'Azur [France], Cl:379 with pic-Cossack asparagus Cotton linter Cattail, C:269 Côte d'Ivoire, République de Cotton (Products from cotton linters) Cossacks, The [book by Tolstoy] Ivory Coast, 1:475 table on, Cl:382 Cote-hardie Textile (Manufactured fibres), T:170 Tolstoy, Leo (Early life and works), T:289 Clothing (The Middle Ages), Cl:100 Cotton, John (English author), Ci:389 Cotehele House Cotton, Sir Henry (British golfer), Cossacks (people), Cl:373 Stately homes of Britain and Ireland, Ci:389 Russia (The Time of Troubles), R:486 Ukraine, U:4; (Lithuanian and Polish Cotton, William [British inventor] 50:300 Knitting machine, K:305 Coterie rule) U:12 Prairie dog (Habits), P:738 Cottonmouth Cost-benefit analysis leconomics), Water moccasin, W:87 Cotillion (dance), Ci:379 Ct:373 Cotman, John Sell [British painter], Cottonseed oil, Ci:390 Utilitarianism, U:287 Cottontail rabbit Cost CI:379 with picture Industry (Structure), 1:224 Cotonou [Benin] Rabbit, R:38 Cottonwood, Ci:390 with picture Price. P:774 Benin (Land and climate), B:238 with Cost effectiveness [economics] man Leaf picture on, L:129 Cost-benefit analysis, Ch:373 Cotopaxi [Ecuador], Ch380 Poplar, P:681 Mountain (table), M:668 with diagram Cost of living [economics], Cl:373 with Cottonwood borer diagram and map Beetle picture on, B:199 Economics table on, E:65 Volcano (table), V:419 with map Cotty wool Inflation (Theories about the causes of Cotswold [England], Ci:380 Wool (Types of wool), W:310 inflation), 1:230 Gloucestershire, G:212 Cotyledon, Cl:390 Cost-push inflation Cotswold Hills [England], Cl:380 with Dicotyledon, D:163 Inflation (Theories about the causes of picture Germination, G:141 inflation), 1:230 Monocotyledon, M:568 Europe picture on, E:356 Plant (Seeds), P:555 with diagrams; Costa (botany) Gloucestershire (Land regions), F:213 (How a seed develops into a plant Moss (The structure of mosses), M:636 United Kingdom picture on, U:56 Costa Rica, Ci:374 with pictures and Cottage industry, Ci:380 P:561 Seed (The parts of a seed), S:235 with maps Cotton (England), Ci:388 diagrams; (How seeds sprout) See also list of Related Articles Family (The family in Western culture). Flag picture on, F:203 F:22 with picture S:237 with picture Tree (Broadleaf trees), T:374 World War II (table: The Allies), W:381 Industrial Revolution (Growth of the Coubertin, Baron Pierre de French Costello, John Aloysius (Irish political Industrial Revolution), 1:212 leaderl, Cl:379 Textile (During the Middle Ages), educator Coster, Charles de [Belgian author] Olympic Games (History), 0:436 Eulenspiegel, Till, E:353 Cotter's England [book by Stead] Cougar Costermonger Stead, Christina, So:307 Mountain lion, M:671 Pearly kings and queens, P:236 with Cotton, Ci:381 with pictures and map Cough, Ci:391 picture See also list of Related Articles Croup, Ci:456 Tuberculosis (The disease), T:433 Costovertebral joint [anatomy] Australia (Agriculture), A:771 Rib, R:259 Bombay (History), B:441 Coulee Dam Costumbrismo (literature) Clothing (Clothing materials), Ci:106 See Grand Coulee Dam Coulibaly, Ouezzin ipolitical leader Latin American literature (Realism), Colonial life in America (Crops), Cl:184 Burkina Faso (History), B:655 Egypt (Agriculture), E:113 with picture Coulomb (unit of measure), Ci:391 Spanish literature (The 1800's), So:195 Fibre (Plant fibres), F:67 India (Manufacturing), 1:74 picture on Costume Ampere, A:339 Coulomb, Charles Augustin de, Classi Ballet, B:53 with picture Montserrat (Economy), M:581 Electric measurement, E:152 Film industry (The costume designers), Electrolysis (Laws of electrolysis), F:84 with picture Pink bollworm, P:507 with picture Opera (The designers), 0:460 with pic-Queensland (Farming), Q:22 E:175 Slavery (Functions of slaves), S:482 Farad, F:26 Coulomb, Charles Augustin de

with picture

Sudan (Agriculture), So:383 with pic-

[French scientist], Cl:391

Comte, Auguste, Ch271

Coursing [sport], Cl:399

Courser, Ci:398 with picture

Europe (The Reformation), E:388 Country dance Coulomb, Ci:391 Electricity (Experiments with electric Germany (The Reformation), G:132 Dancing (The 1600's and 1700's), D:26 charges and currents), E:171 Pius IV. P:528 Folk dancing, F:287 Coulton, G. G. [British author], Cl:391 Country Girl, The [film] Pope (Renaissance and Reformation), Council (local government), Ci:391 Kelly, Grace, K:213 P:677 Council for Mutual Economic Assist-Reformation (Religious influences), Country life Agriculture, A:161 R:182 ance (COMECON) Asia (Way of life in Southwest Asia), Cold War (Beginnings of the Cold Roman Catholic Church, R:342 A:631; (Way of life in South Asia) Spanish literature (The 1600's), So:194 War), Cl:160 A:634; (Way of life in Southeast Common market, Cl:221, Ci:223 Trent, Council of, T:393 Asia) A:637 Poland (Foreign trade), P:631 Counterclaim [law] Spain, So:172 Council for Scientific and Industrial Court (How civil courts work), Ci:400 Country music, Cl:395 with pictures Research (CSIRO) Countercultural movement See also list of Related Articles Adolescent, A:51 Bruce, Stanley, B:596 Music (Popular music), M:734 Council for Small Industries in Rural Counterespionage Country Wife, The [play by Wycherley] Espionage, E:330 Wycherley, William, W:425 Intelligence service, 1:278 Country crafts (Historical develop-Country Women's Associations, Counterfeiters, The book by Gidel ment), Ci:394 Ci:396 Gide, André, G:156 **Council of Blood** County, Ci:396 Nobel Prize (Nobel Prizes for Litera-Alva, Duke of, A:296 See also list of Related Articles ture, 1947), N:232 **Council of Chalcedon** Novel (New directions in the novel), **County court** Copts, Ci:345 Australia, Legal system of (Intermedi-NAMES **Council of Europe** ate courts), A:828 Counterfeiting, Ci:392 See Europe, Council of County cricket Counterglow [astronomy] Council of Industrial Design Cricket (Organization), Cl:429 Zodiacal light, Z:500 Country crafts (Historical develop-County government Counterlife, The (book by Roth) ment), Ci:394 County, Cl:396 Roth, Philip, R:407 Council of Nicaea Local government, L:346 Countermeasures Cathedral (Organization of a Cathe-County town Industrial espionage, I:208 dral), C:260 County (Geographical counties), Council of Pisa Countermelody (music) Cl:396 Counterpoint, Cl:392 Pisa, Council of, P:522 Coup d'état, Cl:397 Counterpoint, Ci:392 Council of Trent See also Junta Bach, Johann Sebastian, B:16 Roman Catholic Church (The Counter Coup d'État of Eighteenth Brumaire Canon, C:131 Reformation), R:342; (The church Napoleon I (First consul of France), Classical music (Fugue), Ch58; (The todayl R:344 N:20 Renaissance period) Ci:59 Trent, Council of, T:393 Coup stick Council tax Music (Harmony), M:730 Indian, American (Why the Indians Property tax, P:809 Tallis, Thomas, T:17 fought), I:146 Counselling, Ci:391 Countersubject Couperin, François [French composer], Classical music (Fugue), Cl:58 Drug abuse (Treatment of drug abuse), Ci:397 D:323 Fugue, F:481 Coupler Mental Illness (Psychotherapy), M:354 Countertenor [music] Locomotive diagram on, L:354 Counsellor at Law (play by Rice) Contralto, Ci:318 Photography (Developing colour film), Rice, Elmer, R:267 Counterweight [mechanics] Counsellor Lift (How lifts work), L:254 Couplet [poetry], Cl:397 Lawyer, L:123 Countess (title) Poetry (table), P:611 Count [title], Cl:392 Earl. E:14 Coupon Count of Carmagnola, The [play by Lady, L:12 Rationing, R:143 Nobility (in Great Britain), N:236 Manzonil Courage to Be, The [book by Tillich] Italian literature (Romanticism), 1:446 Counting Tillich, Paul, T:248 Count of Luxembourg, The loperetta Addition (Addition by counting), A:36 Courantyne [river, Guyana] Arithmetic (Counting and grouping), by Lehár) Guyana (Land), G:434 Lehár, Franz, L:157 A:570 Courbet, Gustave [French painter], Count of Monte Cristo, The book by Numeration systems (How numeration Cl:397 with picture Dumas] systems began), N:348 Painting (Realism), P:71 with picture Dumas, Alexandre, père, D:344 Roman numerals, R:346 Realism (In painting), R:160 Monte Cristo, M:574 Subtraction (table), So:373 Courgette, Cl:398 Count Raggi's bird of paradise Counting chamber Courier [satellite] Bird picture on, B:315 Blood count, B:401 Satellite, Artificial (Important satellites), Countdown Counting coup S:96 Rocket (Launching a rocket), R:317 Indian, American (Why the Indians Counter-electromotive force Course (textile) fought), 1:146 Textile (Knitted fabrics), T:171 Electric motor (The armature), E:154 Counting device Course of Positive Philosophy, The Counter Reformation, Ci:392 Writing, W:423 (book by Comte) Architecture (Baroque architecture), Country [political unit], Ci:393

Nation, N:32

World (table), W:318; map on W:320

Country crafts, Ci:393 with pictures

A:528

Christianity, C:486

Education (The Reformation), E:93

Algeria (Foods), A:262

Arabs (Food and drink), A:491

Letter writing (Letters of application). Court [law], Cl:399 Morocco (Food and drink), M:613 L:190 with picture See also list of Related Articles Cousin Bette [book by Balzac] Writing (Preparing and submitting a Balzac, Honoré de, B:70 International law (Courts and arbitra-Cousin. Ci:402 with diagram manuscript), W:422 tion). I:292 Family (Family relationships), F:20 Covert | feather Court [sports] Bird (Feathers), B:349 with picture Handball, H:39 with picture Cousin Rosamund [book by Westl West, Dame Rebecca, W:156 Covert operation Honduras picture on, H:263 Cousteau, Jacques-Yves [French ocea-Central Intelligence Agency, C:321 Squash, So:246 with diagram and picnographer], Ci:402 with portrait Intelligence service, I:278 Covey [zoology] Diving, Underwater (History), D:209 Table tennis, T:3 with diagram and picture Exploration (table), E:429 Grouse (Habits), G:387 Tennis, T:142 with diagrams Marine biology (Biological oceanogra-Quail, Q:4 Volleyball, V:422 with diagram phers), M:210 Cow, Cl:404 Court, Inns of [English] Skin diving (History), S:473 Cattle, C:270 with pictures See Inns of Court **Couture house** Dairying, D:6 with picture Court, Margaret (Australian tennis Dior, Christian, D:183 Dolphin (The life of dolphins), D:253 playerl, Cl:401 Couture, Thomas Elephant (Kinds of elephants), E:203 Tennis picture on, T:147 Manet, Edouard, M:152 Lactation, L:11 Court, Sir Charles (Australian politi-Painting picture on, P:72 Milk, M:465 with picture cianl. Cl:401 Couvade Moose, M:600 Skeleton diagram on, S:461 Court dance Folklore (Superstitions and customs), Whale (Reproduction), W:209 Dancing (Ballet), D:22 F:290 Cow parsnip, Cl:404 Court fool Couvreur, Mrs. Jessie i Australian Jester, J:95 writer Cow Plain Court-martial, Ci:401 Australia, Literature of (The develop-Forum, Roman, F:366 **Court of Chancery** ment of the novel), A:830 Cow town Common law, Ci:220 Cowboy (The trail drive), Ci:408 Covalent bond (chemistry) Equity (Beginnings), E:317 Bond, B:444 Cowan, Peter (Australian writer) Law (Developments in Britain), L:115 Electronics (Solid-state components), Australia, Literature of (Modern short **Court of High Commission** E:107 stories), A:832 High Commission, The Court of, H:196 Matter (Structure of matter), M:264 Coward, Sir Noel (British playwright), Mineral (Chemical bonds), M:487 Court of Saint James's, Ci:402 CI:404 with portrait Court of the Four Evangelists Covariant equations Lean, Sir David, L:136 Escorial, E:324 Cowbird, Ci:404 with picture Einstein, Albert (The papers of 1905), Court of the Lions [Alhambra, Spain] Bird (Feeding methods), B:339 E:131 Alhambra, A:267 Coven Cowboy, Ci:405 with pictures See also list of Related Articles Spain picture on, So:175 Witchcraft (Witchcraft today), W:282 Courtesy Covenant Ranching, R:133 Camping, C:68 Abraham, A:15 Texas, T:166 Cowen, Sir Zelman (Australian lawyer, **Courtesy title** Judaism (The covenant with God), J:154 Nobility (Privileges of the peerage), Moses (The covenant with God), Cl:410 with portrait N:236 M:632 Cowes [England], Ci:410 Peer of the realm, P:244 Ten Commandments, T:139 **Cowes Week** Courtier Covenant, Ark of the Cowes, Ci:410 Renaissance (Humanism), R:216 Wight, Isle of, W:245 with picture Ark of the Covenant, A:575 Courtois, Bernard [French chemist] Covenanters (religious group), Cl:402 Cowhand Iodine (Properties of iodine), 1:325 Scotland, History of (The combined Cowboy, Ci:409 Courtship kingdom), S:172 Ranching, R:133 Animal (Courtship behaviour), A:405 Covent Garden [London], Cl:403 with Cowley, Abraham [English poet], with picture picture Ci:410 Bird, B:345 with pictures Covent Garden Journal [magazine] Metaphysical poets, M:379 Butterfly (The life cycle of butterflies), Fielding, Henry, F:70 Cowpastures Plains B:687 Coventry [England], Cl:403 with picture Camden, C:51 Fish (How fish reproduce), F:176 Godiva, Lady, G:226 Cowpea, Ci:410 Cowper, William English poetl, Ch410 Hare, H:59 West Midlands (Places to visit), W:168 Insect, 1:256 **Coventry Cathedral** February (Quotations), F:43 Marriage (Preliminaries to marriage), Coventry picture on, Ch403 Cowpoke M:218 Cover crop Cowboy, Cl:405 Swan (Habits), So:456 Alfalfa (As a cover crop), A:247 Cowpox Courtship of Miles Standish, The Erosion (Controlling erosion), E:323 Jenner, Edward, J:83 [poem by Longfellow] Rye (Uses), R:509 Cowpuncher Alden, A:240 Cover Girl [film] Cowboy, Cl:405 Cowrie [sea snail], Ci:410 with picture Kelly, Gene, K:212 Evangeline, E:402 Longfellow, Henry W., L:379 Cover Her Face [book by James] Money picture on, M:548 Shell, S:342; picture on S:344 Standish, Miles, So:276 James, P. D., J:23 Couscous Ifoodl Coverdale, Miles (English religious Cowry Africa (Food and clothing), A:127 leader], Cl:404 See Cowrie

Bible (Early English translations), B:276

Covering letter

Cowslip, Cl:410 with picture

Cox, William [Australian settler], Ci:411

Coyote (wild dog), Cl:411 with picture Fur (table), F:488 Nutria, N:361 with picture Coysevox, Antoine [French sculptor], Sculpture (Movement), S:191; (European sculpture! S:212 with picture Cozzens, James Gould | American author), Ci:412 Cardiopulmonary resuscitation, C:197 Cr [symbol] Chromium, C:497 Crab, Cl:412 with pictures Animal (Regeneration), A:406 Arthropod, A:607 with picture Crustacean, Cl:465 with pictures Fiddler crab, F:70 with picture Crab apple, Ci:412 with picture Crab Nebula lastronomyl Star (Exploding stars), So:285 Supernova, So:429 Taurus, T:68 Crab plover, Cl:413 Crab spider Spider, So:222; picture on So:217 Crabb, Chris Wallace (Australian writer stories]. A:832 Crabbe, George [British poet], Cl:413 Wool (Making fabric), W:312

Australia, Literature of (Modern short

Crack [drug]

Cocaine, Cl:139 Drug abuse, D:321

Crack willow Willow, W:260 Cracker bill

Bird picture on, B:350 **Cracking process**

Petrol (History), P:331 Petroleum, P:349 Cradle Mountain

Tasmania picture on, T:53 **Cradie of New France** Quebec, Q:11

Cradle of the Russian Empire Nizhniy Novgorod, N:224

Cradles of civilization Asla (History), A:657 Cradock Nowell [book by Blackmore]

Blackmore, R. D., B:380 Craft guild

Guilds, G:411

Craft of Musical Composition, The (work by Hindemith) Hindemith, Paul, H:208

Craft union

Australia, History of, A:812 Crafts

Colonial life in America, Ci:185 Country crafts, Cl:393 Egypt, Ancient, E:126 Handicraft, H:47 Inca, 1:30 with pictures Indian; American (Arts and crafts), 1:146 with pictures; (Indians of the

tropical forest) picture on 1:163 Indus Valley civilization (indus culture), 1:206 Industrial Revolution, 1:211

Malaysia, M:88 with pictures

Crafts Centre of Great Britain Country crafts (Historical development), Cl:395

Craftworker

Bahamas picture on, B:30 City (Economy), Ci:29 Handicraft, H:47 with pictures

Cragside Grounds [England]

Northumberland (Places to visit), N:288 Craig, Edward Gordon British de-

signeri, Cl:413 Terry, Dame Ellen, T:160

Craig, James See Craigavon, Lord

Craigavon [Northern Ireland], Ci:413 Craigavon, Lord [Northern Ireland po-

litical leaderl, Cl:413

Crake, Ci:413 with picture Cramer, Stuart W. Itextile engineer Air conditioning (history), A:194

Cramp [disorder], Ci:414 Muscle (Disorders of the muscles), M:716

Cranach, Lucas, the Elder [German painterl, Ci:414

Luther, Martin picture on, L:419 Cranberry, Ch414 with picture

Cranbrook (England) Kent (Places to visit), K:221

Crane (bird), Ch414 with pictures Bird picture on, B:327 (Bird sanctuarles) B:355; Endangered species

Crane [construction], Ci:416 with pic-

Building construction (Constructing a skyscraper), B:628 with picture

Construction equipment (Hoisting and material-handling machinery), Ci:310 with pictures

Daddy longlegs, D:3

Crane, Hart American poetl, Cl:416 American literature (Modernist poetry), A:318

Crane, Stephen [American writer], Ci:416 with portrait American literature (Naturalists), A:316

Novel (The United States), N:313 Crane, Walter [British artist], Ci:417

Crane's-bill

Geranium, G:104 Cranford [book by Gaskell]

Gaskell, Elizabeth, G:60

Cranial bones [anatomy] Skull, S:474

Cranium [anatomy]

Brain (How the brain is protected), B:512

Head, H:93 Skull. S:474 Crank [mechanics]

Machine (Wheel and axle), M:13 with picture

Petrol engine (Crankshaft), P:333 Starter (Car starters), So:295

Crankcase

Petrol engine (Parts of a reciprocating petrol engine), P:332

Cranko, John [British choreographer] Ballet (Ballet in Europe), B:57

Crankshaft

Car (How a car works), C:153 Ignition (The direct fire ignition system), 1:29 Machine diagram on, M:11

Petrol engine (Kinds of petrol engines), P:331; (Parts of a reciprocating

petrol engine) P:332 Starter (Car starters), So:295

Cranmer, Thomas (English religious leader), Cl:418

Boleyn, Anne, B:424 Henry VIII, H:152

Crannog Lake dwelling, L:22

Cranston, John [British scientist] Protactinium, P:812

Crapper, Sir Thomas [British plumber] Plumbing (History), P:603

Crash, The [book by Zola] Zola, Émile, Z:501

Crashaw, Richard [English poet], Cl:418 Counter Reformation, Cl:392

Crassus, Marcus Licinius (Roman

statesman), Ci:418 Caesar, Julius (Alliance with Pompey), C:13

Jerusalem (Ancient times), J:93 Pompey the Great, P:666 Rome, Ancient (Breakdown of the re-

publici, R:380

Triumvirate, T:411

Crater igeologyl, Ch418 Lakes picture on, L:18 Meteor (Meteorites), M:381 with pic-

ture Moon (The moon's surface), M:585

with pictures Volcano (The eruption of a volcano),

V:416 with diagram

Cravat

Necktie, N:65

Craven (England), Cl:418

Craven, Danie (South African rugby football administrator), Cl:418

Crawfish

See Crayfish

Crawford, Adair (irlsh chemist) Strontium, So:358

Crawl Swimming (The basic strokes), So:484

Crawl, The Hampshire (Customs), H:33

Crawler crane (construction)

Crane, Cl:416 Crawler tractor

Tractor, T:324 with picture

Crawley (England), Cl:418 Craxi, Bettino [political leader]

Italy (Recent developments), I:471

Crayfish, Cl:418 with picture Crayon, Ci:419

Credit. Ci:419

Credit card, Ci:420

Cable, George Washington, C.7 Painting (Pastels), P:42 Hire purchase, H:220 Crazing Credit rating Louisiana, L:401 Opal, 0:454 Credit. Ci:419 Mulatto, M:689 Crazy Horse (Indian chief), Cl:419 New Orleans (The people), N:120 Credit union, Ci;420 Indian wars (The Sioux wars), 1:176 Bank, B:93 São Tomé and Príncipe (People), \$43 Cream Cooperative, Ci:337 Sierra Leone (People), S:412 Butter, B:678 Credit, Letter of Creosote, Cl:421 Milk (table), M:467 Letter of credit, L:188 Cresol, Ci:422 Cream cheese Creditor Termite (Termite control), T:157 Cheese (Soft cheese), C:360 with pic-Bankruptcy, B:95 Crescent (symbol), Ci:422 tures Collection agency, Ci:164 Cresol, Cl:422 Cream of tartar, Ci:419 Debt, D:63 Cress. Ci:422 Baking powder, B:34 Creditors. The play by Strindbergl Mustard, M:746 Tartaric acid, T:49 Strindberg, August, So:356 Cresson, Edith [political leader] Creamery Creed, Apostles France (Recent developments), F:418 Butter (How butter is made), B:678 Apostles' Creed, A:473 Crest Creamware [china] Creed, Nicene Waves (Characteristics of waves), Wedgwood ware, W:130 See Nicene Councils W:104 Crease Creek chub **Crested lark** Cricket, Cl:425 Chub, C:500 with picture Lark, L:65 Creasey, John [British author], CE419 Fish picture on, F:166 Crested swift, Ci:422 Detective story (The pattern), D:136 Minnow, M:499 Crested tit Creasy, Sir Edward [English historian] Creek Indians Tit, T:264 Battles, Fifteen Decisive, B:157 Indian, American (Indians of the Cretaceous Period, Ci:422 Creation Southeast), I:153; with picture Australia (Mesozoic Era), A:767 Evolution (Acceptance of evolution), Indian wars (In the South (1813-1842)). Chalk, C:337 E:413 1:175 Dinosaur (Kinds of dinosaurs), D:177 Genesis, G:78 Creei with pictures; (table) D:178; (Omi-Life (The origin of life), L:249 Fishing (Bait), F:184 thischians) D:180; (Why dinosaurs Mythology (What myths are about), Textile (Making the fabric), T:172 died out) D:181 Creeper [bird], Ci:420 with picture M:751 with picture; (The creation Earth, E:31; (The Mesozoic Era) E:27; myth) M:756; (The creation of life) Bird (Birds of Europe) picture on, (table) E:30 M:761 Fish (The first modern fish), F:178 Roman Catholic Church, R:335 Hawaiian honeycreeper, H:82 Forest (Later forests), F:352 Scientific creationism, S:152 Creeper (plant) Fossil (Recording the changes in the Scopes trial, S:154 Virginia creeper, V:404 with picture earth), F:370 Creation, The [oratorio by Haydn] Creeping bent Prehistoric animal (table), P:746 Haydn, Joseph, H:90 Bent, B:240 Cretan labyrinth Creation (book by Vidal) Creeping buttercup Labyrinth, L:6 with picture Vidal, Gore, V:368 Buttercup, B:679 with picture Cretans [people] Creation of Adam, The lpainting by Creeping Jennie Crete, Cl:422 Michelangelo] Loosestrife, L:383 Clothing, Cl:99 with picture Painting (Michelangelo), P:58 with pic-Creeping thistie, Ci:421 with picture Painting (Cretan painting), P:46 with Thistle, T:222 picture Creation of the World, The Imusic by Cremaster Crete, Ci:422 with picture Milhaudl Butterfly (The pupa), B:689 Aegean civilization, A:67 with map; Milhaud, Darius, M:464 Chrysalis, C:498 (The Minoan culture) A:67 with Creation Story [poem] Cremation, Cl:421 picture Babylonia (Language and literature). Bali (Culture and tradition), B:41 Greece, G:338 with picture Funeral customs (The funeral), F:484 World, History of the (The Greeks), Creationism, Scientific Suttee, So:451 W:338 Scientific creationism, S:152 "Cremation of Sam McGee, The" [bal-Crete, Battle of [1941] Creative insight lad by Service) Mountbatten, Louis, M:673 Invention, 1:313 Service, Robert William, S:272 Cretinism [birth defect], Ci:423 Crèche Paracelsus, Philippus Aueolus, P:159 Crematorium Doll (The Renaissance), D:245 Cremation, Cl:421 Thyroid gland, T:234 Crécy, Battle of, Ci:419 Crematory Creutzfeldt-Jakob disease, Ci:423 Archery (History), A:509 Creutzfeldt, Hans G. [German psychla-Cremation, Ci:421 Edward, E:93 Cremer, Sir William Randal (British trist] Edward III, E:94 politician), Ci:421 Creutzfeidt-Jakob disease, Cl:423 England (The Hundred Years' War), Nobel Prizes (Peace), N:233 Crevasse [geology] E:276 with picture Creole [language] Antarctica (The Antarctic icecap), Feudalism (The decline in feudalism), Aruba (People), A:615 A:438 F:64 Dominican Republic (Population and Glacier (The movement of glaciers), Credit, Ci:419 ancestry), D:258 G:174 with diagram Crèvecoeur, Michel-Guillaume Jean See also list of Related Articles Haiti (Language), H:15 Credit bureau Mauritius (People), M:270 de [French-born essayist], Cl:423

West Indies (Languages), W:165

Creole [people], Ci:421

American literature (The revolutionar)

period), A:311

ture), G:357

New Testament (Critical studies of the

New Testament), N:137

Law enforcement, L117 Convicts in Australia (Background of Crew Opera (The technical staff), O:461 with the convicts), Ci:321 Scottish law, S:175 **Criminal Police Organization** Famine (Effects of famine), F:25 pictures Interpol, I:298 Ship (Officers and crew), 5:382 Hostage, H:317 Crewe and Nantwich (England), Cl:423 **Criminalistics** luvenile delinguency, J:175 Police laboratory (History), P:645 Crewel lembroideryl, Ci:424 with pic-Moscow (Social problems), M:628 Criminology, Ci:441 with picture New York City (Social problems), Sociology (table), So:11 N:148 Crib (card game) Police (Investigating crime), P:640 See Cribbage Wool (Sorting and grading), W:311 Police laboratory (How evidence is Crib death Crimson breasted barbet Sudden infant death syndrome (SIDS), handled), P:644 Bird picture on, B:324 Rape, R:137 So:385 Crime and Punishment Inovel by Dos-Crimson clover Crib doll Clover, Cl:114 Doll (The Renaissance), D:245 toevsky Criollo (people) Dostoevsky, Fyodor, D:271 Cribbage, Ci:424 with picture Creole, Ci:421 Novel (Russia), N:313 Cribellum Latin America (The beginnings of colo-Russian literature (The 1860's and Spider (How spiders make silk), nial unrest), L:90 1870's), R:499 So:220 Crioulo [language] Crime detection Criccieth (Wales) Guinea-Bissau (People), G:416 Ballistics (Forensic ballistics), B:59 Gwynedd (Places to visit), G:439 Crippen, Robert L. [American astro-Blood (The significance of blood Crichton, James (Scottish scholar), naut groups), B:398 Ci:424 Space exploration (The shuttle era be-Fingerprinting, F:111 Crick, Francis H. C. [British biologist], gins), So:157 picture on So:158, Footprinting, F:336 Ci:424 Police laboratory, P:644 with picture Biology (The growth of modern biol-Cripps, Sir Stafford [British statesman], Telephone tapping, T:111 ogy), B:307 Ci:442 with portrait Crime Doctor, The [book by Hornung] Cell (The 1900's), C:303 Crisis, The [pamphlet by Paine] Hornung, E. W., H:283 Heredity (The chemistry of genes), American literature (The revolutionary Crime family H:174 period), A:311 Mafia, M:39 Science picture on, S:147 Bradford, William, III, B:505 Crime prevention Watson, James Dewey, W:101 Paine, Thomas, P:22 Capital punishment, C:144 Cricket [sport], Ci:425 with pictures Crisp head lettuce Crime, Cl:438 See also list of Related Articles Lettuce (Kinds of lettuce), L:194 Juvenile delinquency (Prevention of Barbados (Sports and recreation), Cristallo glass delinquency), J:176 8/302 Glass (The Middle Ages), C:196; (Types Lighting (On streets and major roads), England (Recreation), E:267 with picof art glass) G:198 L:267 ture Criterion-referenced test Crime syndicate Hampshire (Recreation), H:33 Testing (Achievement tests), T:163 Crime (Organized crime), Cl:436 Ireland (Recreation), 1:355 Critias |Athenian political leader| Crimea, Cl:439 with picture and map Kent (Recreation), K:219 Plato (Plato's life), P:589 Crimean Mountains Latin America (Recreation), L:82 Thirty Tyrants, T:220 Manchester (Recreation), M:143 Ukraine, U:9 Critical and Pronouncing Dictionary Crimean War, Ci:440 with picture Northern Ireland (Recreation), N:272 lbook by Walkerl Balakiava, Battle of, **B:34** Packer, Kerry Francis Builmore, P:18 Dictionary (Early English dictionaries), Foreign Legion, F:341 United Kingdom (Recreation and D:166 Greece (Otto I), G:342 sports), U:53 Critical Exposition of the Philosophy Napoleon III (Foreign affairs), N:24 West Indies (Sport and recreation), of Leibniz, A [book by Russell] Nightingale, Florence (Service in Cri-W:167 Russell, Bertrand, R:461 Zimbabwe (Recreation), Z:494 mea), N:216 Critical mass Cricket ball Russo-Turkish wars, R:503 Nuclear energy (Chain reaction), N:325 Cricket (Equipment), Cl:425 Criminal Nuclear weapon (Fission weapon), Cricket bat Amnesty, A:337 N:335 Cricket (Equipment), Cl:425 Crime, Ct:435 Critical philosophy Cricket bat willow Criminology, Ci:441 Philosophy (The philosophy of Imman-Criminal contempt Willow, W:260 uel Kant), P:425 Contempt, Ci:315 Cricket linsectl, Cl:435 with pictures Critical temperature Criminal Investigation Branch (CIB) Animal (Home ranges), A:409 Gas [matter] (How gases behave), G:58 Police (Investigating crime), P:640; Ear picture on, E:13 Criticism and Fiction book by Ho-Insect picture on, I:253 (Australia) P:641 wellsl Cricket St. Thomas [England] Criminal Investigation Department Howells, William Dean, H:335 Somerset (Places to visit), So:38 (C.I.D.) Criticism, Cl:442 Cricoid cartilage Scotland Yard, S:174 See also list of Related Articles Criminal investigation (book by Gross) Larynx, L:68 with picture Book review, B:459 Police laboratory (History), P:645 Crime, Ch435 French literature (Realism), F:449 See also list of Related Articles Criminal Justice Act [1982] Greek literature (Philosophical litera-City (Social problems), Ck36 Borstal, B:472

Computer (Computers and security),

Ci:267

Confession, Ci:277

Criminal law

Law (Branches of law), L:110; (The

branches of law) (table) L:112

Courser, Ci:398 Cronkite, Walter [American television Crocodile River [Africa] Limpopo River, L:283 Cronstedt, Axel [Swedish chemist] Crocodilian Cronus [Greek mythology], Cl:452 Crocodile, Cl:448 Reptile, R:231

Crocus, Ci:449 with picture Saffron, S:17 with picture Croesus [king of Lydia], Ci:449 Cyrus the Great, Ck515 Ionians, 1:328 Lydia, L:424 Croft, William [English composer], Ci:449 Crofter, Ci:450 Crofters' war, Ci:450 Crohn's disease lleitis, 1:30 Cromarty Ross and Cromarty, R:403 Crome, John [English painter], Ci:450 with picture Crompton, Richmal [British author], Ci:450 Crompton, Samuel (British inventor), Cl:450 Clothing (The 1700's), Cl:103 Industrial Revolution (Spinning machines), I:213 Invention (Why people invent), 1:310 Spinning (The mule), So:230 Textile (The Industrial Revolution), Cromwell, Oliver (English political leader], Ci:450 with portrait Charles I, C:350 Charles II. C:351 England (The Civil War), E:278: (The Restoration) E:279 Ireland, History of (The Cromwellian settlement), 1:372 London (War, plague, and fire), L:373 Long Parliament, L:378 Parliament (Parliament gains strength), P:192 Puritans (History), P:866 Rump Parliament, R:457 Scotland, History of (The combined kingdoms), S:172 Yankee Doodle, Y:440 Cromwell, Richard Ison of Oliver Cromwelll, Cl:451 Cromwell, Oliver (The Protectorate), England (The Restoration), E:279 Restoration, R:242 Cromwell, Thomas lEnglish statesmanl, CI:451 with portrait England (The English Reformation), E:277 Henry VIII, H:152 Cromwell (drama by Hugo) Drama (Romanticism), D:297 Hugo, Victor Marie (Early life), H:343 Cromwellian settlement Ireland, History of, £372 Cronin, A. J. (Scottish writer), Ci:452

with portrait

Nickel, N:200

Hades, H:4

Scottish literature (After 1900), S:177

news reporterl, Ci:452 with portrait

Mythology (The creation myth), M.756: (table) M:758 Rhea. R:250 Titans, T:265 Uranus (mythology), U:276 Zeus, Z:494 Crook, George [American general] Indian wars (The Sioux wars), 1:176 Crookes tube, Cl:453 with diagram Cathode rays, C:267 Crookes, Sir William, Ci:452 Roentgen, Wilhelm Conrad, R:331 Crookes, Sir William [British scientist] Crookes tube, Cl:453 Electronics, picture on, E:192 Thallium, T:186 Crop (agriculture), Ci:453 Agriculture (Chief agricultural products), A:162; (Commercial farming) Food supply, F:309 Crop Izoology Bird (The digestive system), B:352 Chicken (The body of a chicken), C395 Insect (Digestive system), I:251 Oesophagus, O:413 Crop rotation Agriculture (Improved crop-growing methods), A:173 Agronomy, A:177 Conservation (Soil conservation), Cl:293 Cropping system, Cl:453 Invention (The Industrial Revolution), Nitrogen (Nitrogen in agriculture), N:222 Crop spraying Aeropiane (Special-purpose planes), A:89 picture on A:88 Cropover festival Barbados (Sports and recreation), B:102 with picture Cropping system (agriculture), Ch453 Croquet (game), Ch453 with pictures Crore [money] Rupee. R:459 Crosby, Bing [American entertainer], Ci:454 with portrait Film industry (Best performance by an actor), F:96 Hope, Bob, **H:275** Crosier Sculpture (Early medieval sculpture), Crosland, Anthony British politician Cross [symbol], CI:454 with pictures

Byzantine art picture on, B:698

Cross-country (race), Ci:455 with pic-

Athletics (Running races), A:710

Christianity picture on, C:484 Easter (The crucifix and the cross), E45

Ku Klux Klan, K:336

Cross-chest carry

ture

Drowning, D:312

Hestia, H:188

Fourth Crusade (1202-1204) Crusades,

203

Walteau, Antoine, W:102

Iron and steel (The first steel), 1:401

Crucible process

Cross-country orienteering

Crouch [river]

Essex (Rivers), E:333

Croup [disorder], Ci:456

Croupler

Refrigeration (Low-temperature refrig-

eration), R:186

CI:464 innocent III I:237 Cryogenic freezer Crystallographic axes Crystal (Classifying crystals), Ci:469 Food preservation (Freezing), F:307 Second Crusade (1147-1149) Crusades. Cryogenic refrigerator Crystallography Ci:463 Refrigeration (Low-temperature refrig-Crystal, Ci:469 See also Crusades X rays (In scientific research), X:430 Third Crusade (1189-1192) Crusades. eration), R:186 Ci:463 Richard J R:267 Saladin Cryogenics, Ci:468 Cs [symbol] S:47 Teutonic Knights T:166 Helium (Properties), H:144 Caesium. C:14 CSIRO [Commonwealth Scientific and Physics (Heat), P:473 Crusader [boat] Cobb, John, Ci:136 with picture Science (Physics), S:140 Industrial Research Organization, Crusaders Cryolite [mineral] Ci:470 See Crusades Aluminium (Smelting the alumina), Clunies-Ross (Sir Ian Clunies-Ross). Crusades, Ci:462 A:292 Ci:116 CSR (Australian public company), Civ71 Byzantine Empire (The decline and end Cryosurgery of the empire), B:702 Cryobiology, Ci:468 Ctenoid scale Children's Crusade, Ci:464 Medicine picture on. M:318 Fish (Scales), F:167 with picture Clothing picture on, Ci:102 Surgery, So:437 Ctenophora Eugene III, E:352 Cryotron, Cl:468 Animal (A classification of the animal Europe (Religions), E:366 Crypt [anatomy] kingdom), A:414 **Exploration (East-West contact** Tonsil, T:296 Ctenophore [sea animal], Ci:471 resumes), E:419 Crypt larchitecturel, Cl:468 Ctesibius of Alexandria [Greek inven-Food (The Middle Ages), F:301 Cryptanalysis torl Heraldry (The development of her-Codes and ciphers, Ch149 Invention (Ancient Greece), I:314 aldry), H:160 Cryptic coloration Organ (History), O:495 Jews (jews in Christian Europe), J:114 Protective coloration picture on, P:813 Pump (History), P:855 Middle Ages (Economic recovery), Cryptogam Cu (symbol) M:449 Botany (table), B:481 Copper, Ch341 Palestine (Arab control), P:103 Cryptography Cuatro Seljuks, S:244 Codes and ciphers, Cl:147 Latin America (Music), L:85 Slavery (The Middle Ages), S:480 Crystal ball Venezuela (Recreation), V:330 Trade (The expansion of trade), T:326 Fortunetelling, F:366 Cuauhtémoc | Aztec Indian ruler of Crystal, Cl:469 with picture Crusher Mexicol, Ci:471 Construction equipment (Other con-Electricity (Sources of electricity), Aztec (The Spanish conquest), A:901 struction machinery), Cl:310 Mexico, M:397; (The Spanish con-Wine (Preparing the juice), W:274 Gem (Crystal shape), G:70 quest) M:418 Crusoe, Robinson Ion picture on, 1:325 Cub See Robinson Crusoe Laser (Solid-state lasers), L:73 Bear, B:169 Crust [geology] Liquid crystal, L:305 Lion (The life of a lion), L:299 Earth (The earth's crust), E:19; (Changes Mineral (Mineral crystals), M:486 Tiger (The life of a tiger), T:245 in the earth's crust) E:23 Snow, S:521 **Cub Scout** Plate tectonics (Structure of tectonic Solid-state physics, So:30 Scouting, S:178 plates), P:584 Crystal face Cuba, Ch:472 with pictures and maps Crustacean, Ci:465 with pictures Crystal, Cl:469 See also list of Related Articles See also list of Related Articles Crystal glass Angola (History), A:373 Compound eye, Cl:251 Belgium (Manufacturing), B:220 with Arawak Indians, A:496 Eye (Eyes of animals), E:444 Aviation (Aircraft nationality marks), Ocean, 0:391 Glass (Types of art glass), G:198 A:881 Cruz, Andrés Santa [president of Cold War (The Cold War continued), Crystal microphone Bolivial Microphone (Crystal and ceramic mi-CE160 Bolivia (Independence), B:430 crophones), M:440 with diagram Communism (World War II), Ci:241 Cruz, Sor Juana Ines de la Mexican Crystal Palace (England), Ch470 with with picture poet] picture Flag picture on, F:203 Latin-American literature (Colonial lit-Architecture (The Industrial Revolu-Havana, H:79 with picture erature), L:95 Kennedy, John Fitzgerald, K:217 tion), A:530 with picture Latin America (The West Indies), Left: Cry for the Dead, The (work by Wright) Shelter (The Industrial Revolution), Wright, Judith, W:418 S:352 (Political unrest) L:94 Slavery (The decline of slavery), \$:462 "Cry of the Children, The" [poem by World's fair, W:410 **Browning**] United Nations (UN) (The Cuban mis-Crystal set Browning, Elizabeth Barrett, B:595 Radio (How radio programmes are resile crisis), U:177 Cry the Beloved Country book by United States, History of the The ceived), R:76; picture on R:80 Spanish-American War), U:255 Paton Crystalline lens (anatomy) South Africa (Arts), So:61 Eye (Parts of the eye), E:435 West Indies (The road to indepen-Crying Crystalline rock [geology] dence), W:172 World War II (table: The Allies), W³⁸¹ Baby, **B:9** Igneous rock, 1:28 Tears, T:80 See also Rock Cuban missile crisis Cold War (The Cold War continued), Cryobiology, Cl:468 Crystallization Biology (table), B:305 Crystal, Ci:469 Cb:160 Cryocooler Petroleum, P:349 Cuba, Ci:483 Kennedy, John Fitzgerald (Cuba), K:217

Crystallization nucleus

Crystal, Ci:469

Khrushchev, Nikita Sergeyevich (Soviet

dictator), K:242 United Nations (Arms control), U:179 Cube Igeometryl, Cl:484 with diagram Power, P:731 Cube root [mathematics], Ci:484 Rnot, R:394 Cubi XIX (sculpture by Smith) Sculpture (Texture), S:192; picture on S:217 Cubic measure

Metric system (Volume and capacity measurements), M:386

Weights and measures, W:136 Cubic zirconia

G:73

Gem (Imitation and synthetic gems), Cubism, Ci:484

Braque, Georges, B:523 Chagall, Marc, C:335 with picture Duchamp, Marcel, D:336 with picture Feininger, Lyonel, F:48 Gris, Juan, G:379

Marin, John, M:208 Massine, Leonide, M:247 Painting, P:79 with pictures

Lipchitz, Jacques, L:302

Picasso, Pablo (Early career), P:485 Sculpture (Modern international

sculpture), \$:215 with picture Cubit [unit of measure], Ch:485 Cuboidal cell

Epithelium, E:314

Cuchulainn [irish mythology], Ci:485 Cuchullins

Cullin Hills, Cl:488 Cuckoo bee

Bee, B:190 Cuckoo, Cl:486 with pictures

Bird picture on, B:323, B:326 Cuckoo roller

Bird picture on, B:326

Roller, R:333 Cuckoo-shrike, Ci:487 with picture

Cuckoopint

Arum, A:616 with picture Cucumber, Ci:487 with picture

Pickie, P:487 Cucumber tree Magnolia, M:60

Cucuteni (ancient people)

Moldova (Early days), M:259 Cud, Ci:488

Cattle (Stomach), C:271 Deer (Food), D:80

Goat (Digestive system), G:222 Ruminant, R:456

Cue

Billiards and snooker, B:294 with pictures

Cue [behaviour] Butterfly (The life cycle of butterflies),

B:687 Cue sheet

torl

Film industry (Mixing the sound), F:90

Latin America (Dancing), L:86 Cuenca (city, Ecuador), Ci:488 Cugnot, Nicolas-Joseph French invenCar (The steam car), C:166 with picture

Cuillin Hills [Scotland], Ci:488 Highland Region (Land features), H:201

Cuisenaire Method, Ci:488 with diagrams

Cujo Ibook by Kingl King, Stephen, K:255

Cukor, George [American film director], Cl:488

Film industry (Best achievement in directing), F:96

Culebra lisland

Puerto Rico. P:846

Culebra Cut

Panama Canal (The Gaillard Cut), P:122

Culex mosquito

Mosquito, M:633 with pictures on M:636

Cullen, Paul Cardinal Itrish religious leaderl, Ci:489

Cullenbenbong book by O'Reilly O'Reilly, Bernard, O:493

Cullet

Glass (How glass is made), G:192

Cullinan diamond

Diamond (Famous diamonds), D:155 with picture

Gem (Some famous gems), G:73

Culling

South Africa (Achievements), So:64

Culloden [Scotland], Ci:489

Culloden, Battle of [1746] Culloden, Ci:489

Scotland, History of picture on, S:173

Cuim

Grass (The grass plant), G:301 Cult (religious group), Ci:489

Mysteries, M:750 Religion, R:196

Culteranismo imovementi Góngora, Luis de, G:252

Spanish literature (The 1600's), So:194

Cultivar

Fruit (Developing new varieties of fruit). F:474

Peach, P:226 with picture

Cultivation system Cropping system, Ck453

Cultural anthropology

Anthropology, A:452 with picture Ethnography, E:342

Cultural area

Culture (The boundaries of culture),

Ci:492

Cultural assimilation

Minority group, M:501

Cultural control Insect, I:247

Cultural development

Archaeology, A:503 **Cultural diffusion**

City (Population growth), Ch22

Cultural dissonance Cultural lag, Cl:489

Cultural effects Tourism, T:312

Cultural geography Geography (Divisions of geography), G:88

Cultural influences

Sociology, So:12

Cultural lag, Ci:489

Culture (How cultures change), Cl:493

Cultural pattern

Culture (Characteristics of culture), Ci:490; (Forming patterns) Ci:491

Cultural rationalism

Rationalism, R:143

Cultural relativism

Culture (Ethnocentrism and cultural

relativism), Cl:492

Cultural Revolution [Chinese history]

China. C:463 Jiang Qing, J:117

Mao Zedong, M:173

Cultural trait Culture (Characteristics of culture),

Ci:490; (Forming patterns) Cl:491

Culture and Anarchy (book by Arnold) Arnold, Matthew, A:598

Culture area

Culture (The boundaries of culture), Ci-491

Culture, Cl:490 with pictures and map See also list of Related Articles Anthropology (Cultural anthropology), A:452

Archaeology, A:499 with pictures Byzantine Empire (The people), B:699,

B:700 Civilization, Ci:49

Clothing (Clothing around the world), **Cb92**

Ethnocentrism, E:342 Ethnography, E:342 Etiquette, E:342

Human being (Cultural characteristics), H:347 with pictures; (Human cul-

tural development) H:348 Maori (Maori today), M:179; (One New

Zealand culture or two?) M:181 Ottoman Empire, 0:520

Papua New Guinea (Cultural changes),

P:148 with pictures Prehistoric people (Cultural development of modern human beings),

Races, Human (Races and ethnic or na-

tional identity), R:49

Culture [biology], Ci:494 Culture-fair test

Intelligence quotient (Problems of intelligence testing), 1:277 Testing (Interpreting test scores),

T:164

Culture-free test

Intelligence quotient (Problems of intelligence testing), I:277

Testing (Interpreting test scores), T:164

Culture media

Bacteriology (Studying bacteria), B:22

Cuiture medium Culture, Ci:494

Culture of Cities, The Ibook by Mumford

Mumford, Lewis, M:699

Ianáček)

Janáček, Leoš, J:28

Oxley, John, 0:536

Cunningham, Allan [Australian settler],

Queensland (Early settlement), Q:25

Ci:498 with portrait and map

Cunningham, Andrew Brown (British Radium, R:92 with picture **Culture pattern** Culture (Characteristics of culture), naval leader], Ci:499 See also Joliot-Curie, Irène Curie, Pierre [French physicist], Cl.501 Ci:490 Cunningham, Merce [American **Culture shock** dancer], Ci:499 with picture with picture Culture (Multiculturalism), Ci:492 Cunninghame [Scotland], Ci:499 Becquerel, Antoine Henri, B:179 Cunningham's Gap [Australia] Curie, Marie Sklodowska, Ci:501 **Cultured buttermilk** Medicine (The medical revolution). Buttermilk, B:691 Cunningham, Allan, Ci:498 **Cultured peari** Cunobelinus M:317 with picture Physics (The beginning of modern Pearl (Kinds of pearls), P:234 with pic-Cymbeline, Ci:512 Cup [container] physics), P:476 Culvert [pipe] Piezoelectricity, P:491 Persia, Ancient picture on, P:293 Road (Grading), R:296 Shell picture on. S:348 Polonium, P:660 Culzean Castie (Scotland) Cup moth, Ci:499 Radium, R:92 with picture See also Joliot-Curie, Irène Stately homes, So:300 Cup of Gold [book by Steinbeck] **Cumberland Plateau** Steinbeck, John, So:312 Curina Kentucky (Land), K:222 Cupid (Roman mythology), Cl:500 Bacon, B:18 Cumbernauld and Kilsyth [Scotland], Psyche, P:825 Cement and concrete, C:313 Ci:494 Venus, V:338 Cheese (Ripening), C:362 Cumbria (England), Cl:495 with picture Cupola (architecture), Ci:500 Food preservation, F:306 Arms picture on, A:585 Cuprammonium process Ham, H:27 Cummings, E. E. [American poet], Rayon (How rayon is made), R:148 Leather (How leather is made), L:141 Cl:497 with portrait Cuquenán Falls (Venezuela), Ci:500 Meat processing (Curing and smok-American literature (Modernist po-South America (Waterfalls), So:94 ing), M:299 etry), A:317 Cur Deus Homo [book by Anselm] Paint (Kinds of paint), P:23 Cumnock and Doon Valley (Scotland), Anselm, Saint, A:426 Pork, P:691 Ci:497 Curação [Netherlands Antilles], Ch500 Tobacco (Kinds of tobacco), T:269 with Cumulonimbus Willemstad, W:254 picture; (Curing tobacco) T:271 Cloud (Clouds at more than one Curacao (ship) **Curing society** height), Ci:110 with pictures Shipwreck (table), S:387 Indian, American (Shamans, priests, Lightning (Electrically charged clouds), Curare [poison], Ci:500 and prophets), 1:145 L:272 Surgery (Anaesthesia), So:436 Curium lelementi, Cl:501 Cumuius Curassow, Cl:500 with picture Curlew, Ci:501 with picture Cloud (Kinds of clouds), Ci:109 Curator Curlew River (work by Britten) **Cumulus congestus** Museum (Exhibition and care of mate-Britten, Benjamin, **B:582** Cloud picture on, Ci:111 rials), M:719 Curling, Ci:502 with diagram and plc-Cunard, Sir Samuel (British merchant), Zoo (Caring for zoo animals), Z:503 Ci:497 Curb bit Austria (Recreation), A:860 Cunaxa, Battle of [401 B.C.] Horse (The bridle), H:295 with picture Scotland (Recreation), S:161 Xenaphon, X:433 Curly-coated retriever [dog], Cl:503 Curd Cuneiform (writing), Ch497 with picture Cheese (How cheese is made), Ci:359 with picture Assyria (Language and literature), Tofu. T:273 Currant, Cl:503 A:675 Curfew, Cl:500 Raisin (Varieties of raisins), R:121 Babylonia (Language and literature), Curia Currawong, Ci:503 B:14 with pictures Forum, Roman, F:366 Currency Communication picture on, Ci:230 Curia regis (European history), Ci:501 Economics (World finance), E:64 Ebla, E:50 England (The Norman Conquest), Money, M:547 Hittites (Way of life), H:232 E:275 Current account Numeration systems (The Babylonian Witenagemot, W:283 Balance of payments, B:36 numeral system), N:349 Curie (unit of measure), Ci:501 Current Persia, Ancient (Language and litera-Curie point Arctic Ocean, A:548 ture), P:293 Curie, Pierre, Cl:501 Atlantic Ocean, A:719 Semitic languages, S:248 Magnetism (Magnetism ofmaterials), El Niño. E:219 Sumer, So:407 with pictures M:57 Gulf Stream, G:425 with map World, History of the (The Tigris-Curie, Iréne Joliot Indian Ocean, I:169 Ocean (Temperature), O:387 with map Euphrates Valley), W:332 See Joliot-Curie, Irène Writing (Phonetics), W:423 (How the ocean moves) 0:394 Curie, Jacques Cunha, Euclides da [Brazilian author], Curie, Pierre, Ci:501 with diagram Cl:498 Pacific Ocean (Currents and tides), Piezoelectricity, P:491 Brazil (The arts), B:536 Curle, Marie Sklodowska [French Latin-American literature (The early physicistl, Ck:501 with picture Solar energy (Stored solar energy), Becquerel, Antoine Henri, B:179 1900's), L:96 So:23 Cunjevoi (sea squirt), Ci:498 Curie, Pierre, Ci:501 Whirlpool, W:229 Cunning Little Vixen, The lopera by Medicine (The medical revolution), Current [air]

M:317 with picture

Polonium, P:660

Nobel Prizes (1903, Physics) (1911,

Physics (The beginning of modern physics), P:476 with picture

Chemistryl; portrait on, N:227

Glider, G:205 with diagram

Electric circuit, E:141; (Circuit mathe

Jet Stream, J:107

matics) E:142

Electric current, E:143

Current lelectricityl

Touch, T:309

H:11

Cuticle

Cushing, Harvey [American doctor],

Ethlopia (People), E:338; (Early days)

Ci:505

Cushites [people]

E:340

Cuthbert, Betty [Australian sprinter],

Hair (The structure and growth of hair),

C1:507 with portrait

Algae, A:250

Cyanogen [gas]

Cyanolabe [anatomy]

Eye (The retina), E:437

Gay-Lussac, Joseph Louis, G:66

Cyanosis, Ci:508

RDX. R:149

Cyclopedia, or the Universal Dictio-

nary ... [book by Chambers]

S:323 Blue baby, B:405 E:240 Cynghanedd Cyclops [crustacean], Cl:511 Cybernetics, Ci:509 Welsh literature (Language and form). Cyclops [Greek mythology], Ci:511 Communication, Cl:237 Cycad, Ci:509 with picture Odyssey (Odysseus describes his wan-Cynic philosophy, Ch512 derings), 0:412 Australia (Mesozoic Era), A:767 Ulysses (Return to Ithaca), U:19 Diogenes, D:183 Plant (Gymnosperms), P:543 with pic-Helienistic Age, H:144 ture; (Classification of plants) Cyclops [play by Euripides] Drama (Satyr plays), D:287 Cynic's Word Book, The book by P:570 Tree, T:376 Biercel Euripides, E:354 Cyclades (Aegean Sea) Cyclops [ship] Bierce, Ambrose Gwinett, B:284 Aegean Sea, A:68 with map Cynodont Bermuda Triangle, B:257 Mammal (The evolution of mammals) Cycladic civilization [Greek history] Cyclosporin idrugi, Ch511 Aegean civilization (The Cycladic cul-Heart (The first heart transplants), M/136 Cynon Valley [Wales], Ci:512 ture), A:67 H:113 Cycladic marble figurine Medicine (The medical revolution), Cypress, Ci:512 Tree (Needleleaf trees), T:374; picture Sculpture (Aegean), S:195 with picture M:317 Cyclamates Tissue transplant (Combating rejecon T:386 Artificial sweetener, A:612 tion), T:264 Cyprid Cyclamen, Ci:509 Cyclotron, Ci:511 Larva, L:67 Cancer (Radiation therapy), C:122 Cyprus, Cl:512 with pictures and maps Cycle [transport] Bicycle, B:280 Deuterium (Uses), D:143 Alphabet (The Cypriots), A:282 Cycling, Ci:509 Lawrence, Ernest Orlando, L:121 Aviation (Aircraft nationality marks), Cycle [biology] Particle accelerator, P:205 with pic-A:887 Ecology (Cycling of materials), E:57 ture; (Kinds of accelerators) P:206 Flag picture on, F:205 Greece (The 1950's), G:344; (The restor Environmental pollution (Soil pollu-Cyfarthfa Castle [Wales] tion), E:304 Glamorgan (Places to visit), G:180 ration of democracy) G:345 Generation, G:78 Cygnet Makarios III, M:77 Ocean (The food cycle), 0:394 Swan, So:455 Nicosla, N:201 Plant (Plants and the cycle of nature), Turkey (The Cyprus crisis), T:465 Cygnet [ship] P:542 with diagram Dampier, William (First circumnaviga-Cyrano de Bergerac, Savinien de [French author], Cl:515 with portrait Cycle [engine] tion (1679-1691)), D:18 Moon (Literature and music), M:594 Petrol engine, P:331 with pictures Cygnus (astronomy), Cl:511 Cyrano de Bergerac Iplay by Rostand Cycle [literature] Cylinder (engine) Cyrano de Bergerac, Savinien de, Drama (Mystery plays), D:288 Car (How a car works), C:153; dia-George, Stefan, G:101 grams on C:155 CI:515 Mythology (The Irish cycles), M:760 Petrol engine (Cylinder arrangement); Rostand, Edmond, R:404 Cycle of nature (Parts of a reciprocating petrol en-Cyrenaic philosophy Plant, P:542 with picture gine), P:332 Hedonism, H:133 Cyclic AMP Cylinder (geometry), Cl:511 with dia-Cyril of Alexandria, Saint, Ci:515 Hormone (How hormones work). gram Cyrillic alphabet 14:279 Cylinder block Alphabet, A:284 Cycling, Ch509 Petrol engine (Parts of a reciprocating Belarus (Language), B:209 Bicycle, B:280 Bosnia-Herzegovina (People), B:473 petrol engine), P:332 Olympic Games table on, 0:438 Cylinder gate Croatia (People), Cl:444 Cyclitis Moldova (Ethnic groups and lan-Dam (How dams are built), D:14 Eye (Diseases of the uveal tract), E:442 Cylinder head guage), M:528 Cycloid scale Petrol engine (Parts of a reciprocating Montenegro (People), M:575 Fish (Kinds of fish scales) picture on, petrol engine), P:332 Russia (Language), R:469 F:167 Cylinder press Russian language, R:494 Cyclone, Ci:510 with pictures Printing (Relief presses), P:783 with di-Serbia (People), S:266 Cyrus the Great lemperor of Persial Air (Air movement), A:185 agram Bangladesh (Climate), B:86 Cylinder seal Cl:515 Iran (The Achaemenid Empire), £338 Disaster (Natural disasters), D:187; Assyria (Art and architecture), A:676 (table) D:187 Jerusalem (Ancient times), J:93 Persia, Ancient picture on, P:295 Hurricane, H:388 Jews (Foreign domination), J:113 Cylindrical grinding Pacific Ocean (Typhoons and hurri-Grinding and polishing (Grinding Media, M:305 Palestine (Invasions and conquests), canes), P:15 methods), G:379 Tidal wave, T:240 Machine tool (Metal removal), M:15 P:103 Tornado, T:300 Persia, Ancient (History), P:295 Cylindrical lens Cyrus the Younger Iprince of Persial Weather (Pressure systems), W:114 Eye (Astigmatism), E:439 with diagram Wind (Synoptic-scale circulations), Cylindrical lock Xenophon, X:433 Lock, L:349 with picture W:266 Cyst, Ci:515 Cyclone Tracy Cylindrical projection Acne. A:24 Northern Territory (History), N:284 Map, M:188 with diagrams Ear (Otitis media), E:12 Cyclonite Cymbal ipercussion instrumentl, Ch512

Cymbeline [king of the Catuvellauni],

Cymbeline [play by Shakespeare]

Cl:512

Encyclopedia (An age of experiment),

Shakespeare, William, S:321; (Rhetoric

Trichina, T:399

Cystic fibrosis, Ci:515

Heredity (table), **H:169**; (The era of ge

Wen, W:152

netic engineering) H:174 Races, Human (Susceptibility to genetic diseases), R:48

Cystitis

Bladder, B:382

Cystoscope

Bladder, B:382

Cytisine Laburnum, L:6

Cytochemistry

Cytology, Cl:515

Cytokineses (biology)

Cell (Cell division), C:296

Cytokinin

Hormone (Plant hormones), H:279 Plant (Factors affecting plant growth),

P:562

Cytology, Ci:515

Biology, B:304

Botany, **B:479**

Science (Anatomy), S:140

Cytomegalovirus retinitis [disorder] AIDS (Opportunistic illnesses), A:179

Cytoplasm

Bacteria (The structure of bacteria),

B:20 with diagram

Cell, C:295 with diagram

Chloroplast, C:475

Ectoplasm, E:66

Heredity (How proteins are made), H:171

Life (Cells), L:247 Protoplasm, P:818

Cytosine

Cell (DNA-the wondrous ladder).

C:300 with diagram Heredity (The structure of DNA), H:170

Nucleic acid, N:341

Cytoskeleton [biology]

Cell (table: Terms used in the study of cells), C:293

Cytotoxic T lymphocyte

Influenza (How Influenza spreads),

Czaczkes, Shmuel Yosef

See Agnon, Schmuel Yosef

Czar [title], CI:515

Absolutism, A:16

Royal families (Europe), R:419

Czech Republic, Ci:516 with pictures and maps

Czechoslovakia, Cl:522

Flag picture on, F:208

Prague, P:736 with picture

Czechoslovakla, Cl:522 with pictures

and maps

See also list of Related Articles Cold War (The Cold War continued),

Cl:160

Communism (In Eastern Europe),

CE:244

Czech Republic, Ci:516

Europe (table), E:359

Film industry (International films of the 1960's and 1970's), F:106

Hitler, Adolf (The road to war), H:231

Masaryk, M:240

Munich Agreement, M:702

North Atlantic Treaty Organization

(History), N:259

Slovakia, S:489

World War II (table: the Allies), W:381; (The failure of appeasement)

Czechs [people], Ci:526

Bohemia, B:420

Czech Republic, Cl:516; (People)

Cl:517

Czechoslovakia, Ci:522

Czermanik, János

See Kádár, János

Czerny, Karl [Austrian composer], Ci:526



D [letter], D:1

D-Day, D:2

Amphibious warfare (History of amphiblous warfare), A:343

Eisenhower, Dwight David (Military career), E:132 with picture

World War II, W:392 with pictures and map

D&C

Surgery (Some common surgical operations), So:438

Da..

Personal names beginning Da are alphabetized as single words

d'Abbans, Marquis Claude de Jouf-

froy (French nobleman) Ship (The first steamboats), S:371

Dabberlocks

Seaweed picture on, \$:231

Dabbling duck

Duck (Food), D:338; (Kinds of ducks) D:338 with picture

Dabhoi Fort

Gujarat (Places to visit), G:422

Da capo [music]

Handel, George Frideric (His work),

Opera (Opera seria and opera buffa), 0:463

Dacca

See Dhaka

Dachau (concentration camp), D:2 Dachsbrake (mountain hunting dog),

Dachshund, D:2 with picture

Dog picture on, D:228

Domitian, D:263

Romania (Ancestry and population), R:350; (Early days) R:356

Rome, Ancient map on, R:378

Trajan, T:336

Dacko, David [African political leader] Central African Republic (History),

Dacorum [England], D:2

Dacron (synthetic fibre)

Polyester, P:660

Dactyl [poetry]

Poetry (table), P:611

Dactylic hexameter [poetry]

Latin literature (Early Latin literature),

Dadaism [art], D:2

Breton, André, B:554

Duchamp, Marcel, D:336

Painting, P:81 with picture; (Surrealisml P:83

Sculpture (Assemblages), S:216 with picture

Switzerland (Arts), So:495

Daddy longlegs [insect], D:3 with pic-

Dadra and Nagar Havell (India), D:3 Daedalic style

Sculpture (Archaic sculpture), S:206

Daedalus (Greek mythology), D:3 Aeroplane (History and development), A:76 with picture

Labyrinth, L:6

Minos, M:501

Daendels, Herman Willem (Indonesian political leader), D:3

Daffodil, D:3 with picture

Narcissus, N:24

Dag Hammarskjøld Library United Nations (UN) picture on, U:164

Da Gama, Vasco [Portuguese explorer],

D:4 with picture and map

Cape of Good Hope, C:136

Exploration (The voyage around Africa), E:421 with map; (table)

Geography (Era of exploration), G:89

Natal, N:28

SCUTVY, S:220 South Africa, History of (White settlement in South Africa), So:77

Dagger [reference]

Footnote, F:336

Dagger (weapon), D:5 with picture

Dagging

Clothing, Cl:101

Daghestan (Russia), D:5

Dagohoy, Francisco [Filipino patriot], D:5

Dagon

Samson, S:62

Dagon [Burma]

Rangoon, R:136 Daguerre, Louis Jacques Mandé

[French Inventor], D:5 Communication (In the early 1800's),

CI:231

Daguerreotype, D:5

Niépce, Joseph Nicéphore, N:202 Photography (Early developments),

P:461 with picture

Daguerreotype, D:5 with picture

Brady, Mathew B., B:507

Communication (In the early 1800's),

Ci:231 with picture

Daguerre, Louis Jacques Mandé, D:5 Photography (Early developments),

P:461

Dahina imusical instrument India, Dance and music of (Musical in-

Dahl, Anders struments), I:94 Dahl. Anders [Swedish botanist] Dahlia, D:5 Dahl. Carl [German inventor] Paper (History), P:136 Dahl, Roald [British author], D:5 Dahlla anemone [sea anima]] Animal picture on, A:394 Dahlia, D:5 with picture Dahomev Benin, B:237 French West Africa, F:454 Dai Co Viet Indochina (The Khmer), 1:181 Dai Viet [Vietnamese history] Indochina (A new kingdom), I:181 Vietnam (Independence), V:380 Dail Éireann De Vaiera, Eamon, D:143 Dublin, D:329; (People and government) D:333 Ireland, Government of, 1:363 Irish Constitution (Form of government). E:379 Oireachtas, 0:421 Sinn Féin, S:454 Daily Express Beaverbrook, Lord, B:178 Pearson, Sir Cyrll Arthur, P:236 **Daily migration** Migration (Types of migrations), M:460 Dally tide Tide (High tides and low tides), T:242 Daimler, Gottlieb [German Inventor] Car (The petrol-engined car), C:167 Invention (The late 1800's), 1:318 Motorcycle (History), M:653 with picture Petrol engine (Development of the petrol engine), P:334 Dain Curse, The book by Hammettl Hammett, Dashiell, H:32 Milk (Milk from farm to table), M:466 Dairy cattle Cattle (Dairy cattle), C:273 Queensland (Farming), Q:22 Dairy goats Goat (Raising dairy goats), G:222 **Dairy products** Food (Food from animals), F:295 Milk (table), M:467 **Dairying ant** Ant, A:433 with picture

Dairving, D:6 See also list of Related Articles Daisy, D:8

Black-eyed Susan, B:374 Flower (Variation in flower structure), F:262 with picture

Daisy Miller [book by james] james, Henry, J:22 Daisy wheel

Typewriter (Parts of a typewriter), T:486 with picture

Dakar (Senegal), D:8 French West Africa, F:454 with map Senegal, S:250 with picture

Dakar University Senegal, S:251 with picture Dakota See North Dakota: South Dakota **Dallfood** India (Food), I:65

Daladier, Édouard [politica] leader], United Kingdom, History of the ("Peace

in our time"). U:151

Dalai Lama [religious leader] Bodhisattva, B:417

Lamaism, 1:33 Lhasa, L:201

Nobel Prizes (Peace), N:235 Tibet (History and government), T:237;

(Religion and culture) T:237 Dalang (puppeteer)

Wayang, W:107 Dalbergia

Rosewood, R:402

d'Alembert, Jean (French author) Encyclopedia (An age of experiment),

Science (The Age of Reason), S:147 d'Alembert's Dream [book by Diderot] Diderot, Denis, D:167

Dales D:9

Daley, Victor [Australian writer] Australia, Literature of (Other poetry), A:831

Dali, Salvador (Spanish painter), D:9 with portrait and picture Painting (Surrealism), P:83; picture on PM5

Dalit movement

India, Literature of (Dalit literature). R129

Dallapiccola, Luigi (Italian composerl, Dallas [Texas], D:10 with picture

Dalles (geology), D:11 with picture Dallin, Cyrus Edwin (American sculptorl. D:11

Dall's porpoise Porpoise, P:692 with picture

Dail's sheep [animal] Bighorn, B:286

Dalmatia, D:11

Croatia (Land and climate), Ci:445 Yugoslavia (History), Y:477

Dalmatian [dog], D:11 Dog picture on, D:235

D'Almeida, José [Portuguese doctor],

Dalton [unit of measure] Atom (Atomic weight), A:726

Dalton, John (English chemist), D:11 Atom (The birth of the modern atomic theory), A:728

Chemistry (Dalton's atomic theory). C:370 with picture Physics (Developments in the 1800's), P:476

Daltonism Colour blindness, Ck202

Dalton, John, D:11 Daltrey, Roger (British musician) Who, The, W:241 with picture

Dam, D:12 with pictures

Beaver (Building dams and lodges). B:177

Conservation (Water conservation). Ci:295 Dneproges Dam. D:218

Energy supply (Water power), E:248 Flood (Other floods), F:229 Gordon River Dam. G:258 Grand Coulee Dam, G:294

Irrigation (Surface water), 1:406 Lake (The life of a lake), L:17 with pic-

Madhya Pradesh (History), M:31 New South Wales (Power and irrigation schemes). N:131

Reservoir, R:238 with picture Western Australia (rivers, lakes, and dams), W:180

Dam Busters. The book by Brickhill Brickhill, Paul, B:559

Dam Busters Wallis, Sir Barnes, W:26

Damadar friverl

West Bengal (Rivers), W:160 Damaged Goods (play by Brieux) Brieux, Eugène, B:570

Damages, D:16 Contract, Ci:317 Negligence, N:69

Tort. T:306 Daman and Diu [India], D:16 Damascus [Syria], D:16 with pictures Syria. So:520 with picture

Trade route (Early trade routes), T:327 Damask fabrick D:17 D'Amboise, Jacques [American

dancerl, D:17 with picture Ballet (Ballet today), B:58

Damian, Cyrillys (Austrian inventor) Accordion, A:20 Damien de Veuster, Joseph ireligious

leader), D:17 Damocles [Greek courtier], D:17

Damon and Pythias (legendary figures], D:17

Damp [gas], D:18 Damp-wood termite

Termite (Kinds of termites), T:156

Damper

Piano (The action), P:482 Dampier [Australia], D:18

Dampier, William [British navigator] D:18 with portrait

Exploration (table), E:426 New Britain, N:107

Damping-off (plant disease), D:20 with picture

Damrosch, Leopold [American conductorl. D:20

Damrosch, Walter Johannes Ameri

can conductor], D:20

Damselfly

Dragonfly, D:279 Insect (Incomplete metamorphosis), I:255; pictures on I:242

Dana, Charles Anderson (American editorl, D:20

Dana, Richard Henry, Jr. [American

Perseus, P:291 Danae [painting by Rembrandt] Rembrandt (Early Amsterdam years:

1632-1640), R:210

Da Nang [Vietnam], D:2 Danby, Gordon (American physicist) Magnetic levitiation train, M:52

Dance band

Band. B:74 Dance

See Dancing Dance lentomology

Bee (Finding food), B:188

Dance fly Animal (Courtship behaviour), A:405 Insect (Courtship), 1:256

Dance notation

Ballet (Recording choreography), B:52 with pictures and diagram Dancing (The 1600's and 1700's), D:26

Dance of Death, The [play by Strindberg

Strindberg, August, So:356 Dance of Life. The [book by Ellis]

Ellis, Havelock, E:217 "Dance of the Seven Vells"

Opera (Salome), Q:473 with picture Dance orchestra

Orchestra, O:486 Dance skating

ice skating (ice dancing), 1:15 Roller skating (Competitive roller skating), R:334

Dance stick

Sculpture (The European impact), S:205 with picture

Dance to the Music of Time, A book by Powell

Powell, Anthony, P:731

Dancing, D:21 with pictures

Art and the arts (Mixed art), A:602 with picture

Australian Aborigines, A:837 Ballet, B:47 with pictures

Corroboree, Cl:365 with picture Flamenco, F:219 Folk dancing, F:285 with picture

Fox trot, F:381 India, Dance and music of, 1:92 with pictures

Latin America, L:86

Musical comedy, M:739 with pictures Oriental dancing, D:24 with picture

Rhythm, R:259

Thailand picture on, T:181 United States picture on, U:205

Waltz, W:30 Dancing Class, The | painting by Degas|

Degas, Edgar picture on, D:85 Dandelion, D:28 with picture

Composite family, Ci:250 Lawn (Controlling diseases, pests, and needs), L:120; picture on L:119

Root diagram on, R:392 Dandelion Wine [book by Bradbury]

Bradbury, Ray, B:505

Dandenong Ranges [Australia], D:29

with picture

Dandi march Indian historyl, D:30 Dandie Dinmont terrier, D:30 with picture

Dog picture on, D:232

Dandruff, D:30

Hair (Disorders of the hair and scalp), H:12

Keratin, K:236

Danegeld (taxation), D:30 William I, the Conqueror, W:255

Danelaw, D:30

Alfred the Great (Defeats Danes),

England (The Anglo-Saxon period), E:274

Essex (History), E:333

Vikings (The Danish Vikings), V:392

Danes (people) Denmark, D:108

Dangerous Corner [book by Priestley] Priestley, John Boynton, P:776

Dangerous [film]

Davis, Bette, D:46

Dangling Man (book by Bellow) Bellow, Saul, B:231

Diary, D:157

Daniel (Biblical figure)

Daniel, Book of, D:30 Handwriting on the wall, H:54

Daniel Boone [work by Daugherty]

Daugherty, James Henry, D:43

Daniel Deronda book by Eliot Eliot, George, E:210

Daniel in the Lions' Den [painting by Rubensl picture on, D:31

Daniel-Rops, Henri [French author], Days

Daniel, Book of Old Testamentl, D:30

Daniel, Glyn larchaeologistl, D:30 Daniell cell

Battery (History), B:156

Daniell, John F. (English chemist) Battery (History), B:156

Dannay, Frederic [American author] Queen, Ellery, Q:12

D'Annunzio, Gabriele Italian authori, DEST

Duse, Eleonora, D:356 Italian literature (Romanticism), I:446

Danse Macabre [book by King]

King, Stephen, K:255

Dante Alighieri [Italian author], D:31 Allegory, A:272

Divine Comedy, D:205

Italian literature (The Middle Ages),

Roman Catholic Church, R:335 Virgil (His Influence), V:401

Danthonia

Grass (Kinds of grass), G:302

Danton, Georges Jacques (French political leaderl, D:32

French Revolution (The National Convention), F:453; (The Revolution ends) F:454

Danton's Death (work by Büchner) Büchner, Georg, B:607 Danube River [Europe], D:32 with map

Austria (Land and climate), A:862 Budapest, B:612 with picture

Bulgaria (The Danubian Plateau), B:636 with picture

Hungary (The land and climate), H:377; picture on H:374

River (table), R:290

Romania (Surface features), R:352 Serbia (Land and climate), S:267

Yugoslavia (Rivers and lakes), Y:473

Danubian Basin

Czechoslovakia (Early history), Cl:523

Danzio

See Gdańsk

Danism

See Taoism

Daoud Khan, Muhammad [Afghanistan leader)

Afghanistan (The mid-1900's), A:115; (Afghanistan today) A:115

Daphne [Greek mythology], D:32

Apollo, A:472

Daphne (plant)

Poisonous plant (table), P:621

Daphnia

Water flea, W:85 with picture

Daphnis and Chioë (book by Longus) Greek literature (The Graeco-Roman Age), G:358

Novel (Ancient Greek and Roman narratives), N:311

Romance, R:348

Dapsang K2, K:178

Dapsone [drug]

Leprosy (Treatment), L:183

Dar es Salaam, D:33

Tanzania, T:31 with picture; (Transportation and communications) T:35

Darby, Abraham [British engineer],

Coal (Developments in England),

Industrial Revolution (The revolution in ironmaking), I:214 Iron and steel (History), I:400

Darby, William O. American military leader!

Rangers, R:135

Darcy, Les [Australian boxer], D:33 with picture Dardanelles [Turkey], D:33 with map

See also list of Related Articles Hellespont, H:145 World War I, W:369

Dardanus (ancient city) Dardanelles, D:33

Dardanus (work by Rameau) Rameau, Jean-Philippe, R:131

Dare, Virginia [American colonist], 0:34

Lost Colony, L:394

D'Arezzo, Guido litalian monk Classical music picture on, Cl:59

D'Arezzo, Guittone litalian poeti Italian literature (The Middle Ages),

Dargle, Sir William (Australian artist), D:34

A:802

Australia (Rivers), A:764

Dari [language] Hume, Hamilton, H:368 power), V:363 New South Wales picture on, N:128 Darts [game], D:38 with picture Afghanistan (Ethnic groups and lanquages), A:111 Darling Scarp [mountain chain, Aus-Game, G:24 with picture Darwin, Marx, Wagner book by Bar-Darío, Rubén [Nicaraguan poet], D:34 tralial, D:36 Latin-American literature (Modernism). Darling underwing moth zun] Barzun, lacques, B:123 Moth picture on, M:642 Darwin (Australia), D:38 with picture Spanish literature (Modernism). Darling, Ding [American cartoonist], Northern Territory (People), N:279; Sor198 D:35 with picture Darius Hystaspes (king of Persia) Darling, Grace Horsley [English public (History) N:285 Rawlinson, Sir Henry, R:147 figure), D:35 **Darwin Region** Northern Territory (Land), N:279 Darius I [king of Persia], D:34 Darling, John [Australian merchant], Bosporus, B:476 Devis Darwin, Charles Robert (British natu-Darling, Sir Ralph Igovernor of New ralist), D:39 with portrait Greece, Ancient (The Persian wars), C-353 South Wales], D:36 Archaeology (The 1800's), A:504 Iran (The Achaemenid Empire), 1:338 Squatters in Australia (Free settlers). Biology (The theory of evolution), Marathon (Causes of the battle). M:196 So:251: (The Nineteen Counties) B:307 Persepolis, P:291 Clothing, Ci:88 Persia, Ancient (The Achaemenid Em-Darlington [England], D:37 Emotion (Early theories about emopirel, P:295 with picture Darnley, Lord, D:37 tions), E:230 Darius HI (king of Persia), D:34 Bothwell, Earl of, B:482 Evolution, E:406; (Darwin's theory) Alexander the Great (Conquest of Mary, Queen of Scots (Her reign), E412 Persia), A:244; (The Battle of Ar-M:237 Galapagos Islands, G:9 bela) A:245 Scotland, History of (The union of the Galton, Sir Francis, G:17 Darleeling (Indial, D:34 Heredity (Early ideas about heredity), crowns), S:172 West Bengal (Places to visit), W:161; D'Arrest, Heinrich L. |German astrono-H:172 picture on W:158 Huxley, Thomas Henry, H:392 merl Dark Ages, D:35 Astronomy (The discovery of new Natural selection, N:48 Age (Historic ages), A:156 planets), A:699 Pragmatism, P:736 Dark at the Top of the Stairs, The **Darrieus wind turbine** Races, Human (Evolutionary theory), (play by Inge) Turbine (Wind turbines), T:450 with R:43 Inge, William, 1:233 Science (The importance of science), picture Dark chamber Windmill, W:271 S:138; (Observing nature) S:141; Camera obscura, C:58 with picture (Scientific advances of the 1800's Darrieus, Georges [French inventor] Dark Forest, The (book by Walpole) Turbine (Wind turbines), T:450 5(148) Walpole, Sir Hugh Seymour, W:28 Darrow, Clarence Seward [American Social Darwinism, So:3 Dark is Rising, The [book by Cooper] lawyer), D:37 Wickham, John Clements, W:242 Cooper, Susan, Ch336 Scopes trial, S:154 Zoology (History), Z:506 Dark matter, D:35 Darwin, George H. (British mathemati-Darshana Matter, M:264 Philosophy (Oriental philosophy), clani Dark nebula Moon (Scientific theories), M:593 D'Arsonval galvanometer (instrument) Barnard, Edward Emerson, B:114 Darwin [ship] Nebula (Diffuse nebulae), N:65 Galvanometer, G:18 Australia, Armed services of picture Dark Night's Passing, A [book by Shiga D'Arsonval, Jacques Arsène [French on, A:778 physiologist) Darwin's frog Japanese literature (The modern pe-Galvanometer, G:18 Frog (Eggs), F:466 riod), J:64 Dart Das, Jibananda [Indian writer] Dark Places of the Heart book by Blowpipe, B:404 India, Literature of (The search for Steadi Darts, D:38 modernity), I:129 Stead, Christina, So:307 Dart [sewing] Das, Kamala (Indian writer) Dark Victory [film] Sewing (Laying out the pattern), S:287 India, Literature of (Contemporary Davis, Bette, D:46 Dart, Raymond [Australian anthropolotrends), I:129 Darkness at Noon [book by Koestler] gist], D:37 Das, Lala Sriniwas [Indian writer] India, Literature of (The birth of nation: Koestler, Arthur, K:313 Dartboard Darkness at Noon [play by Kingsley] Darts, D:38 with picture alism), I:128 Kingsley, Sidney, K:283 Darter [bird] Dosh Darling Buds of May, The book by Anhinga, A:375 Punctuation, P:857 Bates] Darter [fish], D:37 with picture Dasheen Bates, H. E., B:149 Dartford [England], D:38 Таго. Т:46 Darling Downs [Australia], D:36 with Kent (Local government), K:219 Dasht-e Kavir [region] picture Iran (The Interior Plateau), I:336; (Cl Dartmoor [England], D:38 Australia, History of (Exploration), Devon (Places to visit), D:147; (Land remate) 1:337 A:802 gions) D:147 with picture Dasyure Cunningham, Allan (Discovery of the Dartmoor Prison Marsupial cat, M:229 Darling Downs), Ci:498 Dartmoor, D:38 Data analysis Statistics (Analysing the data), Soc303 Queensland picture on, Q:19, Q:20 Dartmouth College case [U.S. history] Darling River, D:36 with picture Webster, Daniel (Early career), W:128 Data base Australia, History of (Exploration), Dartmouth Dam [Australia], D:38

Dam (Some important dams), D:14

Victoria (Water, irrigation, mining, and

See Database

Statistics (Collecting the data), So:302

Data collection

Socrates picture on, So:14

David (sculptor by Donatello) Sculpture (Early Renaissance), S:211

David, Sir T. W. E. [British author], D:45

David, Saint, D:45

with portrait

Data compression Television (Digital television), T:133 Data processing Computer, Personal, Ci:268 Computer (Creating and displaying documents and pictures), Ci:255 Police, P:641 Data Protection Act |computers| Data protection, D:40 Data protection [computers], D:40 Data security [computers] Data protection, D:40 Databank Computer, Personal (Uses of a personal computer), Ci:268 Database, D:40 with picture Computer (Storing and retrieving information), Ci:254; (Computers and privacy) Ci:266 Information retrieval (Kinds of retrieval system), I:233 Laser (Recording, storing, and transmitting information), L70 Database program Computer, Personal (Uses of a personal computer), Cl:268 Datapost Post office (Post office services), P:711, P:713 Date (fruit) Date palm, D:41 with picture Date Line, International International Date Line, 1:289 Date mark Hallmark, H:24 Date palm, D:41 with picture Dating Adolescent (Social development), A:53 with picture Sex (Boy-girl relationships), S:291 Dating [archaeology] Archaeology, A:503 Fossil (Dating fossils), F:373 Radiocarbon (Radiocarbon dating), 190 Radiogeology, R:91 Datis [Persian general] Marathon (The battle), M:196 Dative case igrammari Case (Cases in Latin), C:224 Datura (botany), D:42 Dauber [work by Masefield] Masefield, John, M:241 Daudet, Alphonse [French author], D:42 Daugherty, James Henry American author], D:42 Daughter cell Amoeba, A:338 Heredity (Sex cells and reproduction), H:166 Daughter of Jorio, The Iplay by D'Annunziol D'Annunzio, Gabriele, D:31 Daughter of Silence [book by West]

West, Morris, W:156

lbook by Garland)

Garland, Hamlin, G:45

Daughter of the Middle Border, A

Donizetti, Gaetano, D:266 Opera picture on, O:458 **Daughters of Charity** Convent. Ci:318 Vincent de Paul, Saint, V:395 D'Aulaire, Edgar Parin (American authorl. D:42 D'Aulaire, Ingri Mortenson (American author], D:42 Daum glass Glass (Types of art glass), G:198 Daumier, Honoré [French artist], D:42 with picture Bronze picture on, B:586 Cartoon (Early cartoons), C:219 with picture Painting (People), P.32 with picture Realism (In painting), R:160; picture on E:1A9 Dauphin [title], D:42 Davao [Philippines], D:43 Mindanao, M: 480 Davenant, Sir William (English playwright], D:43 Davenport, Thomas (American blacksmithl Electric railway (History), E:163 Daventry (England), D:44 Davey, Thomas (Tasmanian political leaderl, D:44 David Bailey's Book of Photography Ibook by Baileyl Bailey, David, B:33 David Balfour [book by Stevenson] Stevenson, Robert Louis (Stevenson's writings), So:322 David [king of Israel], D:44 with picture Bathsheba, B:152 Chronicles, Book of, C:498 Goliath, G:251 Hittites (History), H:232 Jews (The Kingdom of Israel), J:113; picture on J:114 Palestine (Early history and Hebrew settlement), P:102 Parable, P:158 Psalms, Book of, P:824 Saul, S:113 Solomon, So:31 David Copperfield (book by Dickens) Dickens, Charles (The second phase), D:161 with picture David Copperfield [film] Cukor, George, Cl:488 David I lking of Scotlandl, D:45 Scotland, History of (The kingdom of Scotland), S:168 David II [king of Scotland], D:45 Scotland, History of (The War for Independence), S:169 David, Jacques Louis [French painter], D:45 with picture Clothing picture on, Cl:104 French Revolution picture on, F:453 Napoleon I pictures on, N:18, N:19 Painting (Neoclassicism), P:68 with pic-

Daughter of the Regiment, The

lopera by Donizettil

with picture David [sculpture by Donatello], D:264 Donatello, D:264 Renaissance (The fine arts), R:217 with David (sculpture by Michelangelo) David picture on, D:43 Davidels [poetry by Cowley] Cowley, Abraham, Cl:410 Davidson, Frank Dalby (Australian writer Australia, Literature of (Modern short stories), A:832 Davidson, Jo American portrait sculptor). D:45 Davidson, Philmore "Boots" Trinidadian musiciani. D:46 Davidson, Robert [Scottish inventor] Electric railway (History), E:163 Davies, Laura British golfer Golf picture on, G:250 Davies, Robertson (Canadian author), D:45 Davies, Sir Henry Walford (British composer], D:45 Davies, Sir Peter Maxwell (British composerl, D:46 with portrait Davies, William Henry (Welsh poet), D:45 Da Vinci, Leonardo litalian artisti See Leonardo da Vinci Davis Cup, D:49 Tennis (Tennis tournaments), T:146 **Davis Strait** Davis, John, D:48 Northwest Passage, N:289 Davis, A. H. [Australian writer] Australia, Literature of (Other poetry), A:831 Davis, Arthur Hoey Rudd, Steele, R:442 Davis, Bette |American film actress|, D:46 with portrait Film industry (Best performance by an actress), F:97 Davis, Dwight [American tennis player] Tennis (Tennis tournaments), T:146 Davis, Fred (English snooker player) Davis, D:46 Davis, Jefferson [Confederate political leaderl, D:47 Davis, Joe [English snooker player] Davis, D:46 Davis, John [American sealer] Antarctica (Discovery of a new continent), A:441 Davis, John English exploreri, D:48 Davis, Miles [American musician], D:48 Jazz (Cool jazz), J:77 with picture; (New directions) J:78; (Fusion) J:78 with picture Davis, Sir Colin [British conductor], D:47

Davis, Stuart [American painter], D:48 Painting (American painting-1900-1940), P:83 with picture Davis, Thomas [Irish essayist], D:48 Irish literature (Prose and poetry), 1:382 Davison, Frank Dalby [Australian writer! D:49 Davitt, Michael [Irish reformer], D:50 Davy Jones (sailors' folklore), D:50 Davy lamp Davy, Sir Humphry, D:50 Davy, Sir Humphry (English chemist), Aluminium (History), A:294 Barium, **B:110** Calcium. C:23 Chlorine, C:475 Electric arc, E:140 Faraday, Michael, F:26 Heat (The caloric theory of heat), H:121 Magnesium, M:50 Safety lamp, S:16 Sodium (Extracting sodium), So:16 Davys, John See Davis, John [English explorer] Dawe, Bruce (Australian poet), D:50 Australia, Literature of (Modern short stories), A:832 Dawes Act [1887] Indian, American (The destruction of Indian America), 1:164 Indian Territory, 1:172 **Dawes Commission** Indian Territory, 1:172 Dawes, William [American patriot] Revere, Paul (Paul Revere's ride), R:246 Dawn in Britain, The lpoem by **Doughtyl** Doughty, Charles Montagu, D:272 Dawn Patrol, The [film] Hawks, Howard, H:87 Dawn redwood Sequoia, S:265 Dawn [sculpture] Michelangelo, M:435 Sculpture (Michelangelo), S:212 with picture Dawn [book by Wiesel] Wiesel, Elie, W:245 Daws, Lawrence [Australian painter], D:50 Australia, Art and architecture of, A:785 Dawson, George Mercer [Canadian geologisti, D:50 Dawson, Sir John William [Canadian geologisti, D:50 Dawson, Peter [Australian baritone]. D:52 Day, D:51

diagram

Day care, D:51

Day care centres

Sidereal time, S:410

Time (Measuring time), T:256

Quasimodo, Salvatore, Q:9

Pelican (Endangered pelicans), P:248 Pesticide (Pesticides and the environ-Earth (How the earth moves), E:18 with De . . . Titles beginning with the Latin word Day after Day [poetry by Quasimodo]

Early childhood education, E:15 Day-Lewis, Cecil British poetl, D:52 Day-Lewis, Daniel [Irish actor], D:52 with picture Day lily, D:52 with picture **Day of Atonement** Atonement, A:731 Fast, F:32 Yom Kippur, Y:456 Day of Doom, The poem by Wiggles-American literature (New England), A:310 Day of the Locust. The [book by West] West, Nathanael, W:156 Day of the Triffids, The Ibook by Wyndham] Wyndham, John, W:426 Day, Clarence [American writer], D:51 **Dayaks** See Dyaks Dayan, Moshe [Israeli leader], D:53 with portrait Dayananda [Indian religious leader] Hinduism (Hindu reform movements). Daybreak (book by Baez) Baez, Joan, B:25 Davdream Imagination, 1:34 Sleep (What happens without sleep), Daye, Stephen [American printer] Book (The 1600's and 1700's), B:457 Daviiv Mayfly, M:282 Dayfydd ap Gwilym [Welsh poet] Wales (Arts), W:13 Daylight saving, D:53 Willet, William, W:255 Dayton [Ohio], D:53 D.C. Electric current, E:143 **DDT, D:53** cals), A:175 **Environmental pollution (Controlling** pollution), E:305

De rerum natura (book by Lucretius) Latin literature (The Golden Age), L99 De Senectute (book by Cicero) Days Without End [play by O'Neill] O'Nelli, Eugene Gladstone, 0:452 Cicero, Marcus Tuilius (His works), De Vuigari Eloquentia (essay by Danti) Dante Alighieri (His works), D:31 See District of Columbia (D.C.) Deacon [title], D:53 Deaconess [title] Deacon, D:53 Agriculture (New agricultural chemi-Dead End [play by Kingsley] Kingsley, Sidney, K:283 Conservation (North America), Ci:301 **Dead load**

Building construction (Parts of a build ing), B:626 Insecticide (Organic Insecticides), Dead reckoning Aeroplane (Dead reckoning), A:102 Columbus, Christopher (Sailing west) Malaria (Treatment and prevention), Müller, Paul Hermann, M:691

Navigation (Dead reckoning), N:52 Dead Sea, D:53 Asia picture on, A:645

De facto segregation.

Vesalius]

Ci:2

Ci:2

Ci:2

Cl:2

De-orbit

De jure segregation

Segregation (Examples), S:239

Cicero, Marcus Tullius (His works).

De Humani Corporis Fabrica (book by

Biology (The Renaissance), 8:306

Segregation (Examples), S:239

Cicero, Marcus Tullius (His works)

De Natura Deorum [book by Cicero]

Cicero, Marcus Tullius (His works).

De Natura Fossilium (book by Agricola)

Geology (The Renaissance), G:92

Cicero, Marcus Tullius (His works),

Oratory (Classical orators), 0:484

Space exploration (Space exploration

terms). So:130: (Returning to the

De Oratore (book by Cicero)

earth) So:135

De Otticiis (book by Cicero) Cicero, Marcus Tullius (His works),

De Profundis (book by Wildel

De Republica [book by Cicero]

De Re Metallica (book by Agricola)

Geology (The Renaissance), G:92

Cicero, Marcus Tullius (His works),

Wilde, Oscar, W:249

De Legibus Ibook by Cicerol

De Magnete [book by Gilbert]

Gilbert, William, G:157

De Finibus (book by Cicero)

Earth (The earth's surface), E:19 Israel (The Rift Valley), I:433; (Mining) 1:437 Jordan, River, J:146

West Bank (Land and climate), W:157 See also Great Rift Valley

Dead Sea Scrolls, D:54 Bible picture on, B:273 Library (Libraries of animal skins),

beginning De are alphabetized as single words De Amicitia [book by Cicero]

ment), P:319

Cicero, Marcus Tullius (His works), CH2

De appear below. Personal names

Gogol, Nikolai, G:228 Russian literature (Late romanticism), R:490 Dead Timber [play by Esson] Esson, Louis, E:334 Dead wool Wool (Types of wool), W:310 Dead Zone, The (book by Kina) King, Stephen, K:255 Deadbolt Lock (How door locks work), L:348 with picture Deadly nightshade, D:54 with picture Nightshade, N:217 with picture Deafness, D:55 with pictures See also list of Related Articles Dog, Guide, D:240 with picture Handicapped, H:44 with pictures Speech therapy (Types and causes of speech defects), So:208 Deakin, Alfred [Australian politician], D:58 with portrait Australia, History of (Building a nation (1901-1960)), A:815; (The early Commonwealth) A:816 Dean (office) Address, Forms of, A:41 Dean, Basil [British author] Kennedy, Margaret, K:218 Dean, Dixle [British footballer], D:58 Dean, James [American film actor], D:58 with portrait Dean, Penny Lee [swimmer] English Channel, E:280 De Andrea, John [American sculptor] Sculpture (The superrealists), S:218 Dean's December, The book by Bel-Bellow, Saul, B:231

Hayes, Helen, H:91

Deasaru [Malaysia]

Donne)

Death, D:58

Ustinov, Sir Peter, U:286

Dearborn [Michigan], D:58

Adder, A:34 with picture

Donne, John (His poetry), D:267

See also list of Related Articles

Electroencephalograph, E:175

Famine (Effects of famine), F:25

jainism (Fasting until death), J:12

tions), M:319

Spiritualism, So:232

Death [Greek mythology]

M:751

Sisyphus, S:457

Medicine (Legal and ethical ques-

Mythology (What myths are about),

Funeral customs, F:484 with picture

Parker, Dorothy, P:187

L:230

Dead Souls [work by Gogol]

Dear Brutus iplay by Barriel Barrie, Sir James Matthew, B:119 Dear Me! [work by Ustinov] Johor (Places to visit), J:135 Death adder (snake), D:59 with picture Death and Taxes [work by Parker]

"Death be not proud" (poem by

Death certificate Genealogy, G:75 Death chamber Electrocution, E:174 Death Dance [work by Wilson] Wilson, Sir Angus, W:261 Death in the Afternoon work by Hemingwayl Hemingway, Ernest, H:148 Death in the Family, A [work by James Agee] Agee, lames, A:158 Death in the Stocks book by Heyer! Heyer, Georgette, H:188 Death Kit (book by Sontag) Sontag, Susan, So:42 with portrait Death mask Mask, M:243 Death of a Salesman [play] American literature (Drama), A:321 Drama picture on, D:284 Hoffman, Dustin, H:240 Miller, Arthur, M:473 United States picture on, U:205 Death of Agrippina, The play by

Cyrano de Bergeracl Cyrano de Bergerac, Savinien de, Ci:515 Death of an Expert Witness book by [ames]

James, P. D., J:23 Death of Artemio Cruz, The book by **Fuentes**l

Fuentes, Carlos, F:480 Death of General Wolfe, The painting

Wolfe, James picture on, W:287 "Death of Ivan Hyich, The" [story by Tolstoyl

Russian literature (The 1860's and 1870's), R:499 Tolstoy, Leo (Later works), T:290

Death of Lord Chatham, The lpainting by Copley Copley, John Singleton, Ci:341

Death of Marat, The lpainting by David) David, Jacques Louis, D:45

Death of Oenone and Other Poems,

The [poetry by Tennyson] Tennyson, Lord (His life), T:150 Death of Shaka, The painting by

Skotnesl South Africa, Art of (The influence of

traditional culture), So:70 with picture Death on the Instalment Plan (book

by Célinel Céline, Louis-Ferdinand, C:291 Novel (New directions in the novel), N-313

Death on the Nile [film] Ustinov, Sir Peter, U:286 Death penalty Capital punishment, C:144

Death rate

Africa (Population), A:121 Birth and death rates, B:366 Birth control (The birth control movement), B:367

Life expectancy, L:252 with table Death Valley, D:60 with picture and maps

California (Land), C:38 North America (Land regions), N:250; picture on N:252 Sea level, S:221

United States (The Western Plateaus, Basins, and Ranges), U:211; picture on U:212

Death's-head moth. D:60 Deathwatch [beetle], D:60

DeBakey, Michael Ellis American surgeoni, D:60

Heart (Development of heart surgery), H:112

Debate, D:61 Debenture

Bond [contract] (Kinds of bonds), B:444 De Boissiere, Ralph A. C. (French-Creole novelist], D:62

Deborah (Biblical figure), D:62 De Brazza's guenon

Monkey picture on, M:565 Debrecen [Hungary], D:62 **Debris**

Space exploration (Living In space), So:135

De Broglie, Louis Victor (French physicistl, D:62 Born, Max, B:469

Nobel Prizes (Physics), N:226 Physics (Quantum theory), P:477 Quantum mechanics (History), Q:6 Schrödinger, Erwin, S:135

Debs. Eugene Victor American trade unionistl, D:63

Darrow, Clarence Seward, D:37 Debt. D:63

Bankruptcy, B:95 Debt, National See National debt

Debtor Collection agency, Cl:164 Debt. D:63

Debtors' prison Prison (Early prisons), P:790

Debussy, Claude (French composer), D:63 with portrait

Classical music (The 1900's), Cl:62

Debye, Peter Joseph William Dutch physicist, D:64 Decaffelnated coffee

Coffee (Kinds of coffee), G:153 Decagon [geometry]

Polygon, P:661 Decal [art], D:64

Decalogue

Ten Commandments, T:138 Decameron (book by Boccaccio)

Boccaccio, Giovanni, B:416 Humanism (The arts), H:363

Italian literature (Humanism and the Renaissance), I:445

Renalssance (Humanism), R:215 Short story, S:393

De Castella, Robert | Australian athletel, D:65

ing decimal fractions to percent-

Decimal system (mathematics), D:68

ages) P:275

Waugh, Evelyn, W:103 Decathlon lathletics]. D:65 with picture Arabic numerals, A:488 Decline of the West, The book by Athletics, A:712 Arithmetic (Numeral systems), A:570; Thompson, Daley, T:223 (Decimals) A:572; (History) A:573 Spengler Civilization (Why civilizations rise and Decatur, Stephen [U.S. Navy officer], Division (Division of decimal fractions). D:65 with portrait D:212 fall). Ci:49 History (Theories of history), H:225 Decay, D:65 Mathematics (Early civilization), M:256 Metric system (The decimal arrange-See also list of Related Articles Spengler, Oswald, So:213 Decomposition, D:72 ment), M:385 Decoder Television (Amplifiers and separators). Numeration systems, N:344 with pic-Soil (Plant and animal matter), So:20 ture: (Decimal arithmetic) N:346: T:132; diagram on T:131 **Decay series** Isotope (Radioactive isotopes), I:427 (How numeration systems began) Decoding Codes and ciphers, Cl:147 Deccan N:349 India, I:69 with picture Zero, Z:491 Industrial espionage (Countermea-Deccan Trap Decimetre sures to industrial espionage). Maharashtra (Land features), M:66 Metric system, M:385 Deceiver of Seville, The Iplay by Tirso Decipher Decomposition |chemistry|, D:72 de Molinal Codes and ciphers, Cl:147 Bacteria (Helpful bacteria), B:19 Don Juan, D:263 Decision Decay, D:65 Spanish literature (The 1600's), So:194 Boxing (Scoring a fight), B:495 Distillation, D:203 with diagram Tirso de Molina, T:263 Debate, D:62 Ecology (Energy flow), E:57 Decelean or Ionian War **Decisive battle** Forest (The cycling of chemicals), Peloponnesian War, P:249 Battles, Fifteen Decisive, B:157 P350 Deceleration **Declaration of Human Rights** Soil (Plant and animal matter), So:20 Force, F:337 Human Rights, Universal Declaration Decompression Motion (Acceleration), M:646 of. H:361 Air lock, A:201 Space exploration (Returning to the Declaration of Independence, D:71 **Decompression chamber** American literature (The revolutionary earth). So:135 Diving, Underwater (Dangers of un-December (month), D:66 with pictures period). A:311 derwater diving), D:209 See also list of Related Articles **Decompression sickness** American Revolution, A:326 Calendar (Ancient calendars), C:35 Jefferson, Thomas (Political career), Bends, B:235 **Decembrist Uprising (1825)** Decompression table Nicholas I. N:198 United States, History of the picture Diving, Underwater (Dangers of un-**Decembrists** (revolutionaries) on, U:240 derwater diving), D:209 Russia (Alexander I), R:487 Declaration of London (1909) Deconditioning **Decemvirs** lancient Romel Blockade, B:392 Space exploration (Microgravity), Twelve Tables, Laws of the, T:480 **Declaration of London [1916]** So:135 Decibel [unit of measure], D:68 Triple Entente, T:409 Decorating Acoustics, A:25 Declaration of Paris [1856] Pottery, P:724 Ear (The sense of hearing), E:9 Blockade, B:392 Decoration Sound (Measuring sound), So:52 **Declaration of Rights** Clothing, Cl:91 with picture Deciduous forest Glass (How glass is decorated), G:195 See Bill of Rights; Continental Con-Deciduous tree, D:68 Painting (Painting as decoration), P35 gress; Human Rights, Universal Forest (Temperate deciduous forests), Declaration of; Rights of Man, Decoration, Interior Declaration of the. See Interior decoration Plant (Temperate deciduous forests). Declaration of Sentiments [1848] Decorations, medals, and orders, P:547 picture on P:550 Mott, Lucretia Coffin. M:653 D:73 with pictures Deciduous plant Women's movement (The beginnings Decorative arts, D:76 with picture Leaf (The life story of a leaf), L:127 of a women's movement). W:295 Decorator Deciduous teeth Declaration of the Rights of Man and Interior decoration, I:282 Teeth, T:90 with picture of the Citizen Decorum [drama] Drama (French neoclassical drama); Deciduous tree, D:68 Bill of rights, B:292 Forest (Temperate deciduous forests). Talleyrand, T:16 D:293 F:347 Declaration of the Rights of Man Decoupage, D:76 with picture Leaf (A leaf begins its life), L:127 Rights of Man, Declaration of the, Decriminalization Drug abuse (The legalization debate), Plant (Temperate deciduous forests). R:277 P:547; picture on P:550 Declarer D:323 Tree (Broadleaf trees), T:374 Bridge (Bidding), B:567 Decubitus ulcer Wood (Kinds of wood), W:299 Declension [grammar], D:72 Ulcer, U:15 Décima (music) Inflection, I:231 Ded, Lal (Indian poet) India, Literature of (Women poets of Puerto Rico (Arts), P:847 **Declination** [astronomy] **Decimal fraction** Astronomy (Astronomy terms), A:688; bhakti), I:126 Division (Division of decimal fractions). (Locating objects in the sky) Deductive method [logic], D:77 Geometry (Geometry as a logical sys D:212 A:692; picture on A:690 tem), G:94; (Greek geometry) G:91 Fraction (In symbols), F:384 **Declination** [navigation] Percentage (Changing percentages to Compass (Variation), Ci:249 Logic, L:361 decimal fractions), P:273; (Chang-Decline and Fall of Lloyd George. Philosophy (Logic), P:421

The [book by Beaverbrook] Beaverbrook, Lord, B:178

Decline and Fall [book by Waugh]

Science (Mathematics and logic), Sci59

Deductive reasoning

Geometry, G:94

Reason, R:161	
Dee (physics) Cyclotron, Cl:511	Ī
Dee (rivers), D:77 with picture	I
Deed, D:77 Deemster, The (book by Caine)	
Caine, Sir Hall, C:15	E
Deen (oceanography), D:77	
Indian Ocean (The ocean bed), I:171 Deep Blue Good-By, The (book by	Z
MacDonaldl	
MacDonald, John D., M:7	E
Deep Blue Sea, The Iplay by Rattigan! Rattigan, Sir Terence, R:144	
Deep-sea angler [fish]	
Animal picture on, A:395	E
Fish picture on, F:164 Deep-sea animals	
Fish (Fish of the deep ocean, pictures),	E
F:164	
Ocean (The benthos), 0:392 with pic- tures	IC
Deep-sea diving	D
Diving, Underwater, D:207	
Deep Sea Drilling Project Atlantic, A:721	
Deeping, Warwick, D:77	
Deer, D:78	
See also list of Related Articles Animal picture on, A:387	E
Mule deer, M:690	
Wapiti, W:31	
Deer fly, D:83 Deer Park, The [book by Mailer]	
Mailer, Norman, M:69	
Deere, John [American inventor], D:83	r
Agriculture (The invention of new farm	
equipment), A:173 Deerhound, D:83	E
Deerhurst [England]	E
Gloucestershire (Places to visit), G:213	
Deerslayer, The book by Cooperl American literature (The romance),	E
A:314	-
Cooper, James Fenimore, Cl:336 Desside	
Kincardine & Deeside, K:251	C
^{ve Falla} , Manuel	
See Falla, Manuel de Defamation	
Libel, L:203	
Defence	
Animal (Animal defences and weap-	
ons), A:402 with pictures Defence-based deterrence theory	E
"" " UCGI WASHAR BLOGA	
Tylence Intelligence Staff	
Security Service, St233 Defence mechanism [psychology] Freud Signary 1	I
	r
"" Vals (Neurosis as a psychological	
Psychotherapy (Analytic psychotherapy)	
apy), P:831	
Defence of Poesie, The lessay by Sidney	
Sidney Sin Philip	
THE OF Protein A (
Shelley, Percy Bysshe (His writings),	

```
5/349
Defence of the Realm Acts
DORA. D:268
Defence of the Reformation (book by
   Coulton
Coulton, G. G., Cl:391
Defence, Civil
See Civil defence
Defence (ship)
Dampier, William (First circumnaviga-
     tion (1679-1691)), D:18
Defendant llaw)
 Court (How civil courts work). Ci:400
Trial. T:395
Defender of the Faith, D:83
Defenestration of Prague
Thirty Years' War (The Bohemian pe-
     riod), T:221
Péfense, La
Paris picture on, P:183
Deferred payment
Hire purchase, H:220
Pefibrillator
Arrhythmia, A:599
 Heart (Abnormal heart rhythms),
     H:109: (Progress in treatment and
     prevention) H:113
Paramedic (Dutles), P:170
Deficiency disease
 Anaemia (Insufficient production of
     red blood cells), A:347
 Diet (Normal diet), D:169
 Disease (Nutritional diseases), D:194
 Mainutrition, M:119
Nutrition, N:368
bolicit
Economics (World finance), E:64
Definite article (grammar)
Article, A:610
Definite integral
 Calculus, C:27; (The fundamental theo-
     rum of calculus) C:27
Deflation
National income (Determining national
     income), N:35
Defoe, Daniel (English author), D:84
 Dampier, William, D:18
 luan Fernández, J:153
 Novel (The first English novelists),
     N:312
 Pillory, P:501
 Realism (In fiction), R:159
 Robinson Crusoe, R:305
Defoliation
 Agent Orange, A:158
 Cotton (Harvesting), Ci:386
 Herbicide, H:162
De Forest, John William |American
   novelist), D:84
De Forest, Lee [American inventor],
 Communication (The beginning of the
     electronic age), Ci:233
 Electricity (Electrons and electricity),
     E:172
```

Electronics (The development of elec-

tronics), E:192

Invention (The 1900's), 1:319

picture on, E:192

217 Radio (The start of broadcasting), R:81 Vacuum tube (Development of the vacuum tube), V:299 Deforestation Amazon rainforest, A:298 with picture Animal (Animals of the temperate forests), A:386 Forest, F:352 Deformation bonding Welding, W:143 Deformation-type thermometer Thermometer, T:215 Deformity See Birth defect Defries, Colin (Australian aviator) Aviation (Beginnings), A:882 Defrosting Refrigeration, R:186 Degas, Edgar [French painter] Cassalt, Mary, C:228 with picture Impressionism (French impressionism), J:46 Painting (Pastels), P:42 with picture; (Impressionism) P:76 with pictures De Gasperi, Alcide (political leader), Date Italy (The Italian republic), 1:470 De Gaulle, Charles André Joseph Marie [French political leader], D:85 France (France after De Gaulle), F:417 with picture France (France under De Gauile), F:416 France (The Fourth Republic), F:416 France (World War II), F:415 Pompidou, Georges Jean Raymond, F 666 President (Dual presidency), P:764 World War II (The fall of France), W:384 Degaussing beit Mine warfare (Kinds of naval mines), M:482 Degenerative disease Disease (Noninfectious diseases), D:193 Degenerative joint disease Arthritis (Osteoarthritis), A:606 Degermer (machinery) Maize (The dry-milling industry), M:74 Degerming Maize (The dry-milling industry), M:74 Degeyter, Pierre [Belglan composer] Internationale, The, I:298 Degree (grammar) Adjective (Comparison of adjectives), Degree [unit of measure], D:87 Angle, A:367 Circle, Cl:5 Compass, Cl:248 Latitude, L:100 Longitude (Longitude and location), L:381 Minute, M:504 Time (Measuring time), T:256 Degree of Knowledge, The book by Maritain) Maritain, Jacques, M:211

Del Cano, Juan Sebastián

voyage), M:43

Drama (France), D:295

D:91

Magellan, Ferdinand (The end of the

De La Chaussée, Pierre (French drama-

Delacroix, Eugène (French painter),

Greece, Ancient (Religion), 6:347 Degree, University and college, D:87 Chopin, Frédéric François picture on, Oracle, O:480 De Groot, Francis Edward, D:88 Delphinium Columbus, Christopher picture on, De Groot, Huig Flower picture on, F:247 Grotius, Hugo, G:384 CF210 Larkspur, L:66 Dehane, Jean-Luc [Belgian prime minis-Greece picture on, G:342 Delta [river], D:99 with picture and mass Painting (Romanticism), P:68 with pic-Alluvium, A:279 Belgium, B:222 Earth (How the earth changes), E.21 De Havilland, Sir Geoffrey, D:89 De la Cruz, Apollinario [Filipino reli-**De Havilland Comet** gious leaderl, D:91 Netherlands, N:95 Aeroplane picture on, A:83; (The jet De La Mare, Walter (English author), River (The mouth of a river), R:290 age)A:85 with picture Aviation (A new age of flight), A:885 Delane, John Thaddeus (British au-Space exploration (Launch vehicles), De Hooch, Pieter (Dutch artist), D:89 thorl. D:91 So:132 with picture Dehumanization of Art, The book by Delaunay, Robert (French painter) Delta agent Ortega y Gassetl Painting (Cubism), P:79 with picture Hepatitis (Viral hepatitis), H:152 Ortega y Gasset, José, 0:507 Delaware, D:91 Delta [mathematics] Dehumidifier, D:89 **Delaware River** Calculus (The definite integral), C27 Air conditioning (Controlling the mois-Delaware, D:91 Delta hepatitis ture), A:192 Philadelphia, P:362 Hepatitis (Viral hepatitis), H:152 Dehydrated food, D:89 Delayed speech Delta kite Fishing industry (Methods of process-Kite (Types of kites), K:291 Speech therapy (Types and causes of ing), F:193 speech defects), So:208 Delta Project |conservation| Food preservation (Drying), F:307; Delbrück, Max Netherlands (Delta), N:95 Nobel Prizes (Physiology or medicine), (Freeze ng) F:307; (Modern food Delta wave preservation) F:308 Electroencephalograph, E:175 N:231 Dehydration, D:89 **Delegated legislation Delta wing** Cholera, C:478 Law (How laws are changed), L:112 Aeroplane (The wing), A:89 Vemiting, V:425 De León, Juan Ponce Deltoid muscle (anatomy) Deianira (Greek mythology) See Ponce de León, luan Shoulder, \$:398 with diagram Hercules (The death of Hercules), Delft [pottery], D:92 with picture Deluge (Old Testament), D:100 H:164 Delhi [India], D:92 with pictures Ararat, A:496 Mythology picture on, M:758 See also New Delhi Deucalion, D:142 Deighton, Len (English author), D:89 Delhi Sultanate, D:98 Noah, N:225 Deimos (astronomy) Pakistan (The coming of Islam), P:98 Delusion (psychology), D:100 Mars (Satellites), M:223 with picture Abnormal psychology (Theories of al-**Delhi Union Territory** Deinonychus Delhi. D:92 normal psychology), A:12 Dinosaur (Saurischlans), D:177; (Get-Delibes, Léo |French composerl, D:98 Hashish, H:74 Mental illness (Schizophrenia), M:352 ting food) D:181; picture on D:179 Delilah (Biblical figure), D:98 Delsm. D:90 Delvalle, Eric Arturo [political leader Samson, S:62 Age of Reason, A:157 Delinquency Panama (Panama today), P:120 Deity Adolescent, A:55 Delvaux, Paul (Belgian painter) Religion (Belief In a deity), R:197 Juvenile delinquency, J:175 Painting (Surrealism), P:83 Dejong, Meindert Dutch authorl, D:90 Delirium Delyn [Wales], D:100 Dekker, Eduard Douwes Mental illness (Organic disorders), Demagnetization Magnetism (Magnetism of materials) Multatuli, M:692 M:351 Dekker, Thomas English playwrightl, Delirium tremens, D:98 M:57 D:90 Alcoholism (Effects), A:239 Demand De Klerk, F. W. South African politi-Dellus, Frederick [English composer], Economics (Consumers), E:62; (Mar kets, prices and competition Eff cian), D:90 with portrait D:98 National Party, N:43 Deliver Us from Evil (book by Dooley) Price (Demand and supply), P:774 Mandela, Neison, M:150 Dooley, Thomas Anthony, III, D:267 Supply and demand, So:430 Pan-Africanist Congress of Azania. Della Francesca, Piero **Demand curve** P:111 See Piero della Francesca Supply and demand, So:430 President picture on, P:765 Della Robbia, Andrea Demand indicator South Africa, Government of picture Della Robbia, Luca, D:99 Electric meter, E:152 on. So:75 Terracotta picture on, T:157 Demand-pull Inflation South Africa, History of (The end of Inflation (The quantity theory), 1:230 Della Robbia, Luca (Italian sculptor), apartheid), So:86 with picture D:99 with picture **Demand regulator** Diving, Underwater (Scuba diving), De Kooning, Willem [Dutch artist], Sculpture (Early Renaissance), S:211 D:90 with picture Deller, Alfred [English countertenor]. Skin diving (Scuba diving), S:472 with Painting (Abstract expressionism), P:86 D:99

Della

See Dalles

D:99

pranol, D:99

Apollo, A:472

Delphi [ancient Greece], D:99

Delors, Jacques (French politician).

De los Angeles, Victoria [Spanish so-

picture

D:100

Demarcation, Line of

Deme lancient Greecel

See Line of Demarcation De Maupassant, Guy [French author)

French literature (Realism), F:449

Athens (Democracy), A:708

Dementia

AIDS (Symptoms), A:179 Mental illness, M:352

Demerara (river)

Guyana (Land), G:434

Demeter (Greek mythology), D:100

Mysteries, M:750

Persephone, P:291 Demigod (religion)

Mythology (Greek divinities), M:757 Saint S:27

De Mille, Agnes | American choreographer), D:100 with picture

De Mille, Cecil Blount, D:101

Demineralization

Space exploration (Microgravity), So:135

Demirel, Suleyman (political leader) Turkey (The 1960's), T:465; (Recent developments) T:465

Demise of the Crown

Crown, The, CI:459

Democracy, D:101

See also list of Related Articles Athens. A:708

Civil rights, Ci:40 Constitution, Cl:308 Election, E:138

Europe, E:389

Freedom of speech, F:436

Freedom of the press, F:437

French Revolution (Terror and equallty), F:453

Government (Aristotle's categories), G:270; (Democracy) G:270

Greece, Ancient (Government), G:352 Patriotism (Development of patriot-

ism), P:217

Political science, P:654

World, History of the (The rise of democracy and nationalism), W:353

Democracy and Education book by Dewey]

Dewey, John, D:150

Democracy and Social Ethics (book by Addamsi

Addams, Jane, A:33

Democracy in America (book by Tocquevil[e] Tocqueville, Alexis de, T:273

Democratic Labor Party (DLP)

Australia, History of (The Petrov affair), A:823

Democratic Party, D:105

See also list of Related Articles Populism (The People's Party), P:687 United States, History of the (The elec-

tion of 1824), U:248 Democratic-Republican Party

United States, History of the (Establishing political parties), U:244; (The election of 1824) U:248

Washington, George (Rise of political parties), W:62

Democratic socialism

Capitalism (In a mixed economy),

Labour Party (The British Labour Party),

Democrats, The

See Democratic Party

Democritus [Greek philosopher], D:105 Atom (Development of the atomic theory), A:728

Atomism, A:731

Chemistry (Beginnings), C:368

Materialism, M:254

Pre-Socratic philosophy (The teachings of Parmenides), P:770

Demography, D:105

Geography picture on, G:87 Population (Census), P:685

Sociology (Population studies), So:11; (table) So:11

Demoiselle (aeroplane)

Aeroplane picture on, A:79

Demoiselle crane (bird)

Crane picture on, Ci:415

Demoiselles d'Avignon, Les [painting by Picasso]

Cubism, Ci:484; picture on Ci:485 Picasso, Pablo (Early career), P:485

De Molay, Jacques [French religious leaderl

Knights Templars, K:304

Demolition ball

Construction equipment (Demolition machinery), Ci:310

Demolition machinery

Construction equipment, Ci:310

Demon, The [poem by Lermontov] Russian literature (Late romanticism), RE48H

Demon

See Devil; Devil worship

Demonstrative pronoun [grammar] Pronoun. P:802

Demosthenes [Greek orator], D:105 Oratory (Classical orators), O:484 Philip II, P:366

Demotic [language]

Greece (Language), G:333

Greek language (Development of modern Greek), G:356

Hieroglyphics (Development of hieroglyphic writing), H:193 with pic-

Dempsey, Jack iAmerican boxerl, D:106 with picture

Dempsey, William Harrison See Dempsey, Jack

Dempster, Arthur Jeffrey American physicist], D:106 U-235 [radioactive isotope], U:2

Den

Bear (Cubs), B:169 Fox, F:379 with picture Lion (Cubs), 1.:299 Wolf (Young), W:286

Denakil Desert

Eritrea (Land and climate), E:319 Denarius imoneyl, D:106 with picture

Coin collecting picture on, Cl:156

Denatured alcohol

Alcohol (Ethanol), A:237 Camphor, C:63

Denbies Wine Estate [England] Surrey (Places to visit), So:444 Denblghshire

Clwvd. Ci:116

Dendrite

Brain (Brain cells), B:512 Nervous system (Parts of a neuron),

N:82

Dendrochronology Archaeology (Dating), A:503

Deneb (astronomy), D:107

Star (table), So:284

Deng Xiaoping (Chinese political leaderl, D:107 China (China after Mao), C:464; (Recent

developments) C:464 Communism (China after Mao), Cl:243

Jiang Qing, J:117

Jiang Zemin, J:118

Dengue [disease], D:107

Denim Ifabricl, D:107

Twill, T:480

De Niro, Robert [American film actor], D:107

Film industry (Best performance by an actor), F:96; (Best supporting actor) F:97

Denis, Saint, D:107

Denise (book by Dumas)

Dumas, Alexandre, fils, D:343

Denitrification

Nitrogen cycle, N:223

Denitrifying bacteria Nitrogen cycle, N:223

Denmark, D:108 with pictures and maps

See also list of Related Articles Aviation (Aircraft nationality marks), A:001

Ballet (Ballet in Europe), B:57 Christmas, C:490

Copenhagen, Ci:339 with picture Decorations, medals, and orders, D:75

Europe (table), E:359 Flag, F:199; picture on F:208

Norway (Union with Denmark), N:300

Obscenity and pornography, O:380

Royal families, R:419

Scandinavia, S:120 with map Sweden (Union with Norway and Den-

mark), So:473 Thirty Years' War (The Danish period),

T:221 World War II (The conquest of Denmark and Norway), W:383

Denning, Lord, D:118

Dennis, C. J. [Australian poet], D:118 Australia, Literature of (Other poetry), A1631

Dennis, Martin [American inventor] Leather (History), L:143

Denominate number [mathematics],

0:118

Number and numeral, N:343 Unit, U:69

Denomination [cards] Bridge (Bidding), B:567

Denomination [religion] Religion (How the major religions are organized), R:200

Denominator [mathematics]

Crick, Francis H. C., Cl:424

ments and exchange rate), B:37 Arithmetic (Common fractions), A:572 Evolution (Causes of evolutionary Income (Types of income), 1:52 change), E:407; (Recent develop-Fraction (In symbols), F:384 National income (Determining national Density, D:118 ments) E:412 income), N:35 Franklin, Rosalind Elsie, F:426 Element, Chemical (table), E:198 Depressant, D:123 Hydrometer, H:407 with picture Gene. G:75 Drug, D:313 Gene mapping, G:75 Jupiter, J:171 Drug abuse (Abuse of legal drugs), Matter (Physical properties), M:263 Genetics (Molecular genetics), G:81 Sound (The speed of sound), So:49 Heredity (table), H:166; (The structure D:320 of DNA) H:170 with picture Depression [economics], D:124 with Venus (Mass and density), V:341 Waves (Characteristics of waves), Heredity (The birth of genetics), H:174 picture See also list of Related Articles W:104 Life (Nucleic acids), L:249 Density of population Molecular biology (The beginning of Australia, History of A:811: (The demolecular biology), M:532 pression of the 1890's), A:812 Population (World population), P:684 Mutation, M:747 Economics (Economic stability), E:63; United States map on, U:194 table on E:65 World (Population), W:324 with map; Nucleic acid, N:341 (table) W:321 Police laboratory (Analysing the evi-Germany (The Weimar Republic), G:135 Dent maize dence). P:644 Great Depression, G:316 with pictures Maize, M:72; picture on M:74 Protein (How the body uses proteins), Dental care P:614 Keynes, John Maynard, K:240 Health, H:95 Races, Human (Mutation), R:48 Recession, R:161 Teeth, T:92 Reproduction, R:223 War (Depression and war), W:33 Dental checkup Watson, James Dewey, W:101 Depression (geology) Teeth. T:93 Wilkins, Maurice Hugh Frederick, Egypt (Western Desert), E:111 with Dental decay W:253 map Teeth. T:93 Depression [psychology], D:125 See also Recombinant DNA **Dental floss** Brain (Brain chemistry and mental ill-Deoxyribose [sugar] Teeth (Cleaning the teeth), T:93 Cell (DNA-the wondrous ladder). ness). B:516 Dental hygiene, D:118 C:300 Fatique, F:35 Mental iliness (Affective disorders), Health (Cleanliness), H:95 Heredity (The structure of DNA), H:170 Mouth, M:677 Nucleic acid. N:341 M:352 Teeth (Dental checkups), T:93 De Palma, Ralph (American racing Depth bomb **Dental prosthetics** driver]. D:122 Bomb (Other conventional bombs), Dentistry, D:120 Département (France) BEARAN Dentalia shell Region, R:188 Depth charge Indian, American (Money), I:149 Department, The [work by Williamson] Navy (World War 11), N:61 Dentine Williamson, David, W:258 Depth finder Teeth, T:91 Navigation (Piloting), N:52 Department store, D:122 Dentiphone Retailing, R:244 Depth indicator [water] Hearing aid (History), H:97 Departure tax Fathometer, F:35 with picture Dentistry, D:119 with pictures Taxation, T:70 Depth of field Eye (Depth perception), E:438 with die Gold (Gold in dentistry), G:233 Dependency Hypnotism (Uses of hypnotism), H:414 Colonialism (Colonialism today), Cl:186 Photography (Aperture size), P:447 Orthodontics, 0:507 Commonwealth of Nations, Cl:225 Teeth, T:90 with pictures World (Nations of the World), W:317; with picture; (Setting the expo-D'Entrecasteaux, Bruni [French naval (table) W:322 sure) P:448 commander], D:121 Dependent clause (grammar) Deputy, The [play by Hochhuth] Denture Clause, Ci:69 Hochhuth, Rolf, H:237 De Quincey, Thomas (English essayish Dentistry (General dentistry), D:119: Deperdussin Company (Dental prosthetics and prostho-Aeroplane (Other pioneer planes and dontics) D:120 fliers), A:80 Titles beginning Der appear under Teeth (Removing and replacing teeth), Deperdussin racer their key words, as in Freischütz Aeroplane picture on, A:79 Denver, D:121 Dephlogisticated air Deodorant, D:122 Chemistry (The phlogiston theory), Derailleur Deodorizer, D:122 Bicycle (Power and speed), B:281 C368 Derain, André iFrench artisti, D:114 Deoxyribonucleic acid (DNA) Depilatory Bacteria (The structure of bacteria). Hair (Disorders of the hair and scalp), Fauves, F:38 with picture B:20; (How Bacteria reproduce) H:12 Derby (Australia), D:126 B:21 with picture Depolarization Derby [England], D:126 Biology (The growth of modern biol-Nervous system (The beginning of an Derby [horse race], D:126 ogy), B:307 impulse), N:84 with diagram Derby eland [animal] Blood (The significance of blood Deportation, D:123 Derby, Earl of British statesmanl, D.106 Eland, E:135 groups), B:398 Deposit [geology] Cell, C:292; (DNA, the wondrous lad-Coal (Where coal is found), Cl:123 Derbyan parakeet [bird] Parrot (Kinds of parrots), P:200 der) C:302 with diagrams; (Pro-Deposit society Derbyshire [England], D:126 with map See Friendly society ducing proteins), C:301 with diagrams; (The nucleus) C:292; Deposition [law], D:123 Arms picture on, A:585 (The 1900's) C:303 Depreciation [economics], D:123

Balance of payments (Balance of pay-

High Peak, H:198

North East Derbyshire, N:261

221

Roman roads (Ermine Street), R:346

Derivative [mathematics]

Calculus, C:25 Dermaptera

Earwig, E:39

Insect picture on. I:243

Insect (table), 1:261

Dermatitis, D:128

Eczema, E:74

Pellagra, P:248

Skin (Inflammation), S:470

Dermatology, D:128

Lawless, Theodore Kenneth, L:117 Medicine (The specialities), M:311

Dermis

Human body, H:351

Mammal (Skin and hair), M:127

Skin, S:469 with diagram

Construction equipment (Hoisting and material-handling machinery),

Crane, Cl:416 with picture

Dredging, D:306

Petroleum (Rigging up), P:342 with diagram

Derringer

Handgun picture on, H:43

Derry, D:128

Dervish (religious group), D:129

Derwent [river, Tasmania], D:129 with

Derwentwater, Earl of [English nobleman], D:129

Derzhavin, Gavrill [Russian poet]

Russian literature (The classical movement), R:497

DES [hormone], D:129

Hormone (Agricultural uses), H:280 Des Moines [lowa], 1:328

Desai, Morarji (Indian prime minister), D:129

Desalination

Conservation (Water conservation),

United Nations (UN) (Peaceful uses of nuclear energy), U:172

Water (Fresh water from the sea), W:79

Descartes, René lFrench philosopheri, D:129 with portrait

Age of Reason, A:18

French literature (Classical prose),

Geometry (Beginnings of modern geometry), G:98

Mathematics (Mathematics and the scientific revolution), M:260

Philosophy (Modern philosophy),

P:424

Physics (The Renaissance), P:474 Psychology (Beginnings), P:829

Rationalism, R:143

Science (The scientific revolution), S:146

Solar system (Monistic theories), So:27 Universal language, U:265

Descending aorta (anatomy) Anrta, A:469

Descending colon [anatomy]

Colon. Ci:175

Intestine (The large intestine), 1:298

Descent from the Cross, The painting by Rembrandtl

Rembrandt picture on, R:210

Descent from the Cross, The [painting by Van der Weydenl

Painting (The Flemish style), P:57 with picture

Descent of Man and Selection in Relation to Sex, The [book by Darwin] Darwin, Charles Robert (Darwin's theo-

ries). D:39

Description of the World book by Polol

Polo, Marco (Later life), P:660

Description [kinds of discourse] Literature, L:311

Descriptive adjective [grammar]

Adjective (Classifying adjectives), A:48

Descriptor

Information retrieval (How retrieval systems work), I:232

Desegregation

See Segregation

Desensitization

Allergy (Diagnosis and treatment), A:274

Deseret U.S. historyl, D:130

See also Mormons Desert, D:130 with pictures and maps

See also list of Related Articles

Africa, A:138 with picture

Animal, A:390 with pictures

Arabian Desert, A:487 Asia picture on, A:623; (Way of life in

Southwest Asia) A:630 with picture

Australia, A:763

Biome map on, B:311

Climate (Clothing and climate), Ci:79; picture on Cl:80

Flower (Flowers of the desert), F:258 with pictures

Gibson Desert, G:156

Gobi, G:223 with picture and map Great Basin, G:314 with map

Great Salt Lake Desert, G:326 with map

irrigation, I:405

Kyzył Kum, K:350

Mexico (The Pacific Northwest),

M:409; picture on M:412

North America, N:252 with picture Painted Desert, P:27 with picture

Plant picture on, P:551

Sahara, S:19

South America, So:95

Syrian Desert, So:526 Desert Flame of Andamooka

Opal, 0:454

Desert hedgehog

Hedgehog, H:132

Desert iguana

Iguana, I:30 Desert locust Insect picture on, 1:258

Desert Song, The [musical by Hammer-

Hammerstein, Oscar, II, H:32

Desert tortoise

Reptile picture on, R:231

Deserted Village, The work by Gold-

Goldsmith, Oliver, G:243

Desertion

Abandonment, A:4

De Seversky, Alexander Procofieff American piloti, D:133

Deshret

Egypt, Ancient (The land), E:120

De Sica, Vittorio [Italian film director],

Design, D:133 with pictures

Aeroplane (Building an aeroplane),

Car (Building a car), C:159 with pictures

Clothing (Ready-to-wear clothes), Ci:106

Computer (Creating and displaying documents and pictures), Cl:255 with pictures

Computer graphics, Cl:270 with pic-

Industrial design, 1:207 with picture Interior decoration (Elements of design), 1:283

Manufacturing, M:168

Publishing, P:844

Textile (Designing a fabric), T:172 with picture

Design concept

Interior decoration (Developing a plan), I:284

Design for Living [play by Coward] Coward, Sir Noel, Cl:404

Designer

Opera, 0:460

Designer drugs

Drug abuse (Abuse of Illegal drugs), D:321

Desire Under the Elms [play by O'Neill] O'Neill, Eugene Gladstone, 0:452

De Sitter, Willem (Dutch astronomer), D:134

Desizing

Cotton (Finishing), Ci:387

Desk rack

Woodworking (How to build a World Book desk rack), W:309 with pic-

Desktop publishing, D:134 with pic-

Computer (Creating and displaying documents and pictures), Cl:255

Database, D:40

Desmarest, Nicolas [French geologist] Geology (The rock dispute), G:93

Desmoulins, Camille

Danton, Georges Jacques, D:32 Desolation [poetry by Mistral]

Mistral, Gabriela, M:516 De Soto, Hernando [Spanish explorer],

D:135 with map

Exploration (table), E:421; (Spain's conguests in the New World) E:422 with picture

Despotism, D:135

Dessalines, Jean Jacques (Haitian public figure], D:135

Haiti (History), H:18

Destailnization [Soviet history] Khrushchev, Nikita Sergevevich (Rise as a Communist). K:242

De Still [art]

Furniture (The 1900's), F:506 Mondrian, Piet, M:545

Destouches, Henri-Louis

Céline, Louis-Ferdinand, C:291

Destroyer [ship], D:135 with pictures Navy (Ships and aircraft), N:59 with picture

Warship, W:43 with picture

Destroyer, The [Hinduism] Shiva, 5:388

Destroying angel [fungus] Mushroom (Poisonous mushrooms). M:724

Destructional hill Hill, H:202

Destructive distillation

Distillation, D:203 with diagram

Destructive interference (physics) Diffraction (How diffraction occurs). D:170

Interference, I:280

Light (Interference), L:260 with dia-

Sound (Beats), So:52 with diagram

Destry Rides Again [film] Dietrich, Marlene, D:170

De Sucre, Antonio José Sucre, Antonio José de, So:380

Detached retina

Blindness (Diseases), B:388 Eye (Diseases of the retina), E:442

Detection [psychology]

Perception (Understanding perception). P:278

Detection Unlimited (book by Heyer) Heyer, Georgette, H:188

Detective

Police (Investigating crime), P:640

Detective story, D:136

American literature (Realist fiction), A:318

Poe, Edgar Allan, P:608

Detective Story [play by Kingsley] Kingsley, Sidney, K:283

Detector

Radio (Amplifiers), R:77 with diagram Traffic (Signals, signs, and markings), T:334

Detector bill

Bird picture on, B:350

Détente

International relations (New patterns of international relation), 1:295 Union of Soviet Socialist Republics (Detente), U:35

Detergent and soap, D:137

Enzyme (Uses), E:310 Phosphate, P:431

Detergent [additive]

Petrol (Petrol additives), P:330 Determinant [mathematics], D:140

Determinate inflorescence [botany]

Inflorescence, 1:232 with diagram Determinative

Hieroglyphics (Development of hiero-

glyphic writing), H:193

Determiner [grammar]

Adjective (Classifying adjectives), A:48

Determinism

Fatalism, F:34 Free will, F:433

French literature (Naturalism), F:449 Metaphysics (Causality), A:353

Philosophy (table), P:421; (Stoic philos-

ophy and Epicureanism) P:424 Taine, Hippolyte Adolphe, T:9

Deterrence

Nuclear weapon, N:339

Prison (How prisons operate), P:789

De Tocqueville, Alexis

Tocqueville, Alexis de, T:273

Detonation

Ammunition, A:334

Explosive, E:430

Detonator, D:141

Dynamite, D:365

Fuse, F:509 with picture

Detoxification

Drug abuse (Treatment of drug abuse), D-323

Detroit [U.S.A.], D:141

Car (The Detroit pioneers), C:168

Deucalion [Greek mythology], D:142 Deuce Coupe Idance by Tharpl

Tharp, Twyla, T:187

Deuterium, D:142

Atom (The isotopes of hydrogen) picture on. A:726

Energy supply (Nuclear fusion), E:248 Hydrogen (Properties), H:404

Isotope, I:427

Nuclear energy (Problems of controlling fusion), N:322

Nuclear weapon (Thermonuclear weapon), N:335

Sun (The thermonuclear furnace),

So:416

Urey, Harold Clayton, U:278

Deuterium oxide

Heavy water, H:129

Deuteron

Deuterium (Properties), D:142 isotope (Artificial isotopes), 1:428

Deuteronomy (Old Testament), D:143 Pentateuch, P:266

Deutsche mark

Germany (Economy), G:127 Mark, M:212

Money picture on, M:547

Deutschland [airship]

Airship (The Zeppelins), A:219 Deutschland

Germany, G:112

Deutschland über Alles [anthem], D:143

Deutzia, D:143 with picture De Vaca

Cabeza de Vaca, Álvar Núñez, C.3 De Valera, Eamon [Irish political

leader], D:143 with portrait Ireland (The Irish Free State), 1:377 Sinn Féin, S:454

De Valois, Dame Ninette (British choreographer], D:144

Devaluation, D:144

Devanagari [Indian script] India, Languages of (Scripts and

sounds in Indian languages), 1123 Devanur, Mahadev Indian writer

India, Literature of (Dalit literature). 1:129

Developable Column (painting by Pevsner!

Pevsner, Antoine picture on, P:355

Developing

Photography (The photographic precess), P:442; (Developing and printing) P:452 with pictures

Developing country, D:144

See also list of Related Articles Agriculture (Recent developments),

Car (Economic importance), C:164

Economics (Developing economies),

Industry (How industry varies around the world), 1:222 with picture

Medicine picture on, M:311 Poverty (Measuring poverty), P:729

Railway, R:110

Developing country Village, V:393

Developing economy Economics, E:64

Development

Classical music (The sonata form),

Developmental biology Zoology (What zoologists study),

7:506

Developmental geneticist Genetics (Molecular genetics), G:82 Developmental psychology, D:144

See also list of Related Articles Devereux, Robert (1566-1601)

Essex, Earl of, E:334

Devereux, Robert (1591-1646)

Essex, Earl of, E:334 Devi, Ashpurna (Indian writer) India, Literature of (Contemporary

Device

Heraldry (Elements of a coat of arms) H:160

Devil. D:145

Devil worship, D:145 Exorcism, E:416

trends), 1:129

Mephistopheles, M:358

Witchcraft, W:281 with picture Devil Rides Out, The book by Wheat

ley Wheatley, Dennis, W:226

Devil worship, D:145 Devilfish

Ocean (picture Animals of the ocean) 0:393

Hegel, G. W. F. (Hegel's dialectic),

H:133

Deville, Henri Etienne Sainte-Claire Himalaya (Peaks), H:207 Flax (Growing and processing fibre **Dhofar** (region) Aluminium (History), A:295 flax), F:222 Devils, The lnovel by Dostoevskyl Oman (Land and climate), 0:449 Hemp. H:149 Linen (Preparing the fibres), L:292 **Dhoti** (clothing) Dostnevsky, Fyodor, D:271 Russian literature (The 1860's and Dewantara, Ki Hajav Bangladesh (Way of life), B:83 India (Clothing), 1:65 with picture Suardi Sunyaningrat, So:367 1870's), R:499 Devil's Advocate, The [book by West] Dewar flask Dhow [ship] Ship (Junks and dhows), \$:369; (Sailing Liquid air (Making liquid air), L:304 West, Morris, W:155 ships in the 1900's) S:371 with pic-Thermos flask, T:217 with picture Devil's darning-needle Vacuum, V:296 Dragonfly, D:280 Dia, Mamadou (political leader) Devil's Dictionary, The book by Dewar, Sir James (British chemist) Senegal (History), S:253 Thermos flask, T:217 Blerce) Diabetes (disorder), D:151 Bierce, Ambrose Gwinett, B:284 Dewberry, D:149 Banting, Sir Frederick Grant, B:98 Dewclaw Devil's Island Blindness (Diseases), B:388 Cat picture on, C:245 French Gulana picture on, F:442 Glucose, G:215 Deer (Legs and hoofs), D:79 with dia-Penal colony, P:252 Hypoglycaemia, H:417 Devil's Marbles [Australia] Insulin, I:271 Northern Territory picture on, N:278 Dog (Body structure), D:223 De Wet, Christiaan Rudolf (South Afri-Pancreas, P:127 Devils of Loudun, The Iwork by Pen-Diabetes insipidus can politician], D:149 dereckil Diabetes (Diabetes insipidus), D152 South Africa, History of (The National Pendereckl, Krzysztof, P:255 Diabetes mellitus (disorder) Party), So:83 Devil's Triangle Blindness (Diseases), B:388 **Dewey Decimal Classification Sys-**Bermuda Triangle, B:257 Diabetes (Diabetes mellitus), D:151 tem, D:150 Devil's Trill Sonata [music by Tartini] Disease (Hormonal diseases), D:193 Dewey, Melvil, D:150 Tartini, Giuseppe, T:49 Library (The United States), L:234 Insulin, I:271 Devise Diabetic retinopathy Dewey, George (American naval offi-Will, W:254 Blindness, B:388 cerl, D:149 De Vlamingh, William [Dutch naviga-Eye (Diseases of the eye), E:441 Spanish-American War (Manila Bay), torl. D:146 Diabolo (game) So:189 Devolution, D:146 Top (History of tops), T:298 Dewey, John (American philosopher), United Kingdom, History of the (The Diaconate (office) D:150 United Kingdom today), U:153 Deacon, D:53 lames, William, J:23 Davon [England], D:146 Diacritical mark, D:152 Philosophy (Philosophy In the 1900's), See also list of Related Articles Diaghilev, Sergel Pavlovich, D:152 Arms picture on, A:585 P:426 Ballet (Russian ballet), B:56 Pragmatism, P:735 North Devon, N:261 Dancing (Dancing since 1900), D:28 Dewey, Meivil (American librarian), Devonian Period, D:148 Stravinsky, Igor (Early works), 1:346 Australia (Palaeozoic Era), A:767 D:150 Diagnosis [medicine] Library (The United States), L:234 Earth (The Palaeozoic Era), E:27 table Blood (Diagnostic tests), B:399 on E:30 De Witt's Land Disease (Diagnosing disease), D:196 Australia, History of (First sightings), Fish (The age of fishes), F:178 Learning disabilities (Diagnosis and Prehistoric animal (Early forms of ani-A:798 treatment), L:140 mal life), P:744 Devedrine Magnetic resonance imaging, M:52 Devenport (Tasmania), D:148 See Amphetamine with pictures Auckland, A:738 with picture Dexter side Medicine, M:307 Devonshire, Duke of, D:148 Heraldry (Expansion), H:160 Oncology, 0:451 Devotion Dextrin [chemical], D:150 Diagnostic teaching Hindulsm, H:210 Dextrose [sugar], D:150 Education (Methods of teaching), E:89 De Voto, Bernard Augustine [Ameri-Glucose, G:215 Dey, Vishnu [Indian writer] can editori, D:148 Clock (Kinds of clock), Cl:85 Devoy, Susan New Zealand squash India, Literature of (India after inde-Sundial, So:424 pendence), I:129 playerl, D:148 Dial M for Murder [film] De Vries, Hugo [Dutch botanist], D:148 Dhaka [Bangladesh], D:150 Kelly, Grace, K:210 Bangladesh, B:81; pictures on B:82, Cell (The 1900's), C:299 Dialect, D:152 Heredity (The birth of genetics), H:174 BiAS Asia (Languages), A:625 Dew. D:148 Dhal [food] Chinese language, C:467 Dew point, D:149 Chickpea, C:401 Europe (Languages), E:366 Weather (Moisture), W:112 Dharma, D:151 Grammar (Grammar and usage), G:288 DEW line, D:149 Buddhism, B:615 Greek language (Development of an-Dew point, D:149 Manu, M:166 cient Greek), G:356 Air (Moisture in the air), A:181 Religious life (Buddhism), R:209 Italian literature (The Middle Ages), Humidity, H:368 Dharma Shastras [law books] 1:445 Hinduism (Beliefs of Hinduism), H:209 Rain (What causes rain?), R:116 Language, L:49 Weather (Moisture), W:112 Hinduism (The Ramayana and the Pronunciation, P:802 Dew point hygrometer Mahabharata), H:212 Speech, So:208 Hygrometer (Other hygrometers), Dhasal, Namdev (Indian writer) Dialectic (philosophy) India, Literature of (Dalit literature), H:410

1:129

Dhaulagiri [mountain, Nepal]

Dew pond, D:149

Dew retting

224 Dialectical materialism Philosophy (table), P:421; (Philosophy in the 1800's) P:426 Socrates (The Socratic mind), So:15 Dialectical materialism Marx, Karl (Marx's theories), M:235 Materialism, M:254 Philosophy (Philosophy in the 1800's), P:426 Dialek Jakarta (language) lakarta (People), 1:14 Dialling mechanism Telephone, T:106 Dialogs of the Dead (book by Fenelon) Fenelon, François de Salignac de la Mother, F:51 Dialogue [literature] Drama (Other parts of drama), D:285 Greek literature (Philosophical literature). G:357 Literature (Forms of Literature), L:312 Plato (The dialogues), P:590 Dialogue Concerning the Two Chief World Systems [book by Galileo] Galileo (Galileo and the Roman Catholic Church), G:13 Dialogue of Comfort Against Tribulation, A [book by More] More, Saint Thomas (Character and writings), M:604 Dialogue with Trypho ibook by Justini Justin the Martyr, Saint, J:174 Dialogues of the Carmellites, The imusic by Poulenci Poulenc, Francis, P:726 Dialogues [work by Rousseau] Rousseau, Jean Jacques (Later life), R:413 Dialysis machine Nephritis, N:77 Uraemia, U:272 Diamagnetism Magnetism (Magnetism in atoms), M:56 Diamantina [river, Australia], D:152 Diameter, D:153 Circle (Parts of a circle), Cl:5 with dia-Sphere, So:214 with diagram Diamond, D:153 with pictures Borneo (The land and its resources). B:469 Free State, F:431 Gauteng (Economy), G:64 Gem (Crystal shape), G:70 Gem (Cutting and polishing), G:71 with picture Gem (Index of refraction), G:70; (Hardness) G;70 Gem (Some famous gems), G:73 Gem (Sources of gems), G:71 Lapidary, L:61 Diamond [road]

Diana (Roman mythology), D:156 See also Artemis Moon (Mythology), M:594 Mythology (table), M:758 Diana, Princess, D:156 Charles, Prince, C:353 Age) R:426 Dianthus [plant] Pink, P:507 Diapause Hibernation (Other kinds of dormancy), H:190 Moth (Migration), M:641 Abdomen, A:7 with diagram Cough, Cl:391 Hiccup, H:191 M:129 with diagram Respiration (External respiration), R:239 Diaphragm [birth control] trol), B:367 Diaphragm [photography] with diagram Diaphragm [sound] Menlo Park), E:81 Headphones, H:94 M:441 with diagram with diagram Diaphragm pump chines), Ci:310 Diaporthe pod and stem blight Road (Intersections), R:296 Diamond [suit] Diarrhoea, D:156 Card game (History), C:192 Cholera, C:478 Diamond mining Dehydration, D:89 Northern Cape (History), N:268 Dysentery, D:366 South Africa, History of (The mining Diary, D:157 revolution), So:81 with picture

Diamond-ring effect [astronomy] Baily's beads, B:33 Diamond Sutra [book] Book (The development of printed books), B:455 with picture Tang dynasty, T:25 Diamondback terrapin Terrapin, T:158 with picture Diamonds Are Forever (book by Flem-Fleming, Jan Lancaster, F:225 Elizabeth II (The royal family), E:214 Royal Family of the United Kingdom (Work of the other royals), R:424 with picture; (The new Elizabethan Metamorphosis (The pupa), M:378 Diaphragm (anatomy), D:156 with dia-Human body (The respiratory system), Mammal (The respiratory system), Birth control (Methods of birth con-Camera (How a camera works), C:56 Photography (Aperture size), P:447 Edison, Thomas Alva (The Wizard of Microphone (Carbon microphones), Telephone (The transmitter), T:106 Construction equipment (Pumping ma-Soybean (Diseases and pests), So:126 Literature (Forms of Literature), L:313

Western Australia (Mining), W:180

Nail (The parts of a nail), N:6

Diamond point

Pepys, Samuel, P:271 Diary of Anne Frank, The book by Frank) Frank, Anne, F:424 Dias, Antônio Gonçaives [Brazilian poet Brazil (Arts), B:536 Latin-American literature (The 1800s) Dias, Bartolomeu [Portuguese explorerl, D:157 Cape of Good Hope, C:137 Exploration (Reaching the tip of Africa) E:420 South Africa, History of (White settlement in South Africa), So:77 Diaspora (Jewish history) Jews (Foreign domination), J:113; (The lews today) J:116 Diaspore Bauxite, B:159 Diastole Heart (Heart terms), H:102; (How the heart pumps blood) H:103 with # agram Diastolic blood pressure Blood pressure, B:402 Heart (Regulating blood pressure), H:104 Diathermy, D:157 Diatom, D:158 Algae (Other kinds of algae), A:250 Ocean (The plankton), 0:391 with pit Ooze, 0:454 Diatomite Algae (Other kinds of algae), A:250 Diatom, D:158 Diatonic scale [music] Music (The elements of music), M:729 with diagrams Diatryma Prehistoric animal picture on, P:747 Díaz, Porfirio [Mexican dictator], D:159 Mexico City (History), M:430 Mexico (The dictatorship of Porfirio Díaz), M:421 Diaz, Rodrigo See Cid. The Diaz, Bartolomeu See Dias, Bartolomeu Diazepam [drug] Drug (Depressants), D:313 Dice. D:159 Dichloro-diphenyl-trichloroethane DDT, D:53 Dichlorodifluoromethane Fluorocarbon, F:275 Dichroism Tourmaline, T:313 Dichromatic vision Colour blindness, Cl:202 Dichtung und Wahrheit work by Go thel Goethe, Johann Wolfgang von, G22 Dicing for bibles Cambridgeshire (Local customs), C49

Dick, Sir William Reid, D:159

Dickcissel, D:159

Waves, W:105

Dickens, Charles [English author], Diesel locomotive Age of Reason (Influence of the Age of Reason), A:156 Locomotive, L:352 D:159 Railway, Model, R:114 Drama (France), D:295 Child labour, C:410 Encyclopedia (An age of experiment), Diesel-mechanical locomotive Christmas (Other customs), C:495 Locomotive, L:353 E:240 Daudet, Alphonse, D:42 French literature (The Age of Reason), Diesel oil Ghost, G:150 Fuel (Liquid fuels), F:478 Novel (Great Britain), N:312 F:448 Diet. D:169 Dickerson, Bob [Australian painter], Materialism, M:254 Baby (Feeding procedures), B:8 with Philosophes, P:419 picture Science (The Age of Reason), S:147 Dickey, James [American poet], D:162. Diabetes (Treatment), D:151 Didgeridoo [musical instrument], D:167 Dickinson, Emily (American poet), Australian Aborigines (Music), A:837 Fat F:33 D:162 with portrait Food (Why diets differ around the with picture American literature (Walt Whitman world), F:296 Didion, Joan [American essayist], D:167 and Emily Dickinson), A:315 with Health (Nutrition), H:94 with portrait portrait Judaism (Dietary laws), J:156 Dido (queen of Carthage), D:167 Poetry (Stress metres), P:612; (Begin-Milk (Milk in the human diet), M:466 Carthage, C:213 nings of modern poetry) P:616 Nutrition (Nutrition guidelines), N:364; Aeneld, A:69 Dickinson, Goldsworthy Lowes [Brittable on N:366 Didrikson, Babe [American athlete] Ish author), D:163 Pellagra, P:248 See Zaharias, Babe Didrikson Dickson, W. K. L. Protein (Proteins in the diet), P:814 Didymus [apostle] Edison, Thomas Alvar (Inventor-Space exploration (Microgravity), Thomas, Saint, T:223 Industrialist of West Orange), E:81 Die and diemaking [industry], D:167 So:135 Dicotyledon, D:163 Teeth (A good diet), T:92 Ceramics (Making ceramics), C:326 Cotyledon, Ci:390 Weight control, W:135 Embossing, E:226 Flower (The classifying of flowers), Diet (government) Extrusion, E:434 F:267; (table) F:270 with pictures Japan (The Diet), J:38 Forging, F:361 Plant (Classification of plants), P:570 Dietetics Money (Minting coins), M:550 with Seed (The parts of a seed), S:235 with Diet. D:169 picture picture Diethyl ether [chemistry] Silver picture on, S:428 Stem (Herbaceous stems), So:315 with Ether, E:335 Tool (Metalworking tools), T:297 diagram Diethylstilbestrol Toolmaking, T:297 Tree (Broadleaf trees), T:374 See DES Died in the Wool (book by Marsh) Dictaphone Dietitian, D:170 Marsh, Dame Ngaio, M:224 Edison, Thomas Alvar (Inventor-Hospital (Professional services depart-Diefenbaker, John George (Canadian industrialist of West Orange), E:81 ments), H:315 political leaderl, D:168 Dictating machine, D:163 Dietrich, Mariene (German-born ac-Canada, History of (The end of liberal Dictatorship [political science], D:163 tress], D:170 with portrait rule). C:104; (Challenges of the Absolutism. A:16 Von Sternberg, Josef, V:426 1960's) C:104 Autocracy, A:870 Difference Diego Garcia (island, Indian Ocean), Totalitarianism, T:308 Subtraction (Subtraction questions), World War II (The rise of dictator-D:168 Sp:373 Dielectric (electricity) ships), W:379 **Different Seasons** (book by King) Insulator, Electric, I:270 Dictatorship of the proletariat King, Stephen, K:255 Diem, Ngo Dinh Communism (Ideas of Marx), Ci:239 Differential See Ngo Dinh Diem Dictes or Sayings of the Philoso-Car (The power train), C:156 phers, The (book) Diemaiding Transmission, T:344 See Die and diemaking Caxton, William, C:288 Differential calculus Diemen, Anthony van Dutch East In-**Diction** [literature] Calculus, C:25 dies government official) Drama (The structure of drama), D:285 Mathematics (Branches of mathemat-Tasman, Abel Janszoon (The first voy-Singing (Other singing skills), S:454 ics), M:256 Dictionary, D:164 age), T:49 Differential distillation Dien Bien Phu, Battle of [1954], D:168 Fowler, Francis George, F:377 Distillation, D:203 Diesel, Rudolf [German mechanical en-Dictionary of Music | work by Rous-Differential hoist gineer], D:168 Block and tackle (Endless chain), B:391 Rousseau, Jean-Jacques (Later life), Diesel engine (History), D:169 with picture Transportation (The beginnings of **Differentiation** (biology) Dictionary of the English Language modern transportation), T:354 Cell (Growth and specialization), Diesel-electric locomotive [work by Johnson] C:297; (The future) C:304 Dictionary (Early English dictionaries), Locomotive, L:353 Embryo (Organization), E:227 Diesel engine, D:168 with diagram D:166 Growth (How growth takes place), Johnson, Samuel, J:134 Car. C:174 Dictys [Greek mythology] G:387 Diesel, Rudolf, D:168 Diffraction [physics], D:170 with picture Electric power (Other sources of elec-Perseus, P:291 Electromagnetic waves, E:176 Didanosine (drug) tric power), E:159 Light, L:260 AIDS (Treatments), A:180 Fuel injection, F:479 Molecule (Studying molecules), M:534 Dideoxycytidine [drug] Ignition, 1:28 with pictures Submarine (The power plant), So:370 Aids (Treatments), A:180 Diderot, Denis [French philosopher], Sound, So:51 Diesel-hydraulic locomotive

Locomotive, L353 with picture

D:167

process information), E:190

Diffraction grating [physics] Digital computer [work by Penderecki] Diffraction (Uses of diffraction), D:171 Penderecki, Krzysztof, P:255 Analog computer, A:349 Diffraction pattern [physics] Computer, Ck252 Dimetrodon Prehistoric animal picture on, P.743 Diffraction (How diffraction occurs), Digital display D:170 with picture Clock (Kinds of clocks), Ci:85 with pic-Diminished interval Diffuse nebula [astronomy] ture: (Line red clocks) Ci:86 Music (Harmony), M:730 Nebula, N:65 Watch (Kinds of watches), W:66 Diminuendo Digital recording Music (table), M:727 Diffusion [anthropology] Dimitrov, Filip (Bulgarian political Culture (Contact with other cultures), Compact disc. Ci:246 Optical disc, 0:479 leader) Diffusion (chemistry), D:171 with dia-Record player (Digital sound record-Bulgaria (Recent developments), Bay gram ing and reproduction), R:165 with Dimitrov, Georgi [Bulgarian politica] Diffusion [physics] picture: (History) R:166 leaderl Integrated circuits (How integrated cir-Tape recorder, T:37: (Cassette tape re-Bulgaria (Communist rule), B:638 cults are made), 1:276 corders) T:39; (History) T:39 Dimples [film] Isotope (Separating isotopes), 1:427 Digital signals Temple, Shirley, T:138 Diffusion bonding Electronics (Terms used in electron-Din-e-Ilahi (religion) Welding, W:143 ics), E:185 Akbar, A:220 Digambar [Indian poets] Digital sound recording and repro-**DIN system** india, Literature of (India after indeduction Photography (Speed), P:450 pendence), I:129 Record player, R:165 Dinefwr (local government district), Digambara [religious group] Digital subtraction angiography D:173 Jainism (Sects and teaching), J:11 (DSA) Dinesen, Isak (Danish author), D:173 Medicine (Other technological ad-Ding Ling, D:173 Magazine (Other magazines), M:41 vances), M:319 Dingane (Zulu king), D:174 Digest [law] Digital synthesizer [machine] South Africa, History of (Settlement of Justinian code, 1:174 Synthesizer, So:518 Natal). So:79 Digestion Digital tachometer Dinahy See Digestive system Tachometer, T:4 Rowing, R:414 Digestive enzymes Digital television Dingo (wild dog), D:174 with picture Digestive system, D:171; diagram on Television, T:133 Animal picture on, A:390 D:172 Digital thermometer Australia (Introduced species), A:770 Digestive hormone Thermometer, T:216 with diagram Dog-proof fences, D:240 Hormone (Metabolic hormones), Digital transmission **Dinichthys** Telecommunication, T:101 Fish (The first fish), F:178 Digestive system, D:171 with diagrams Digitalis (drug), D:172 Prehistoric animal picture on, P:143 Amphibian, A:340 Heart (Treatment), H:105 Dinitrogen monoxide Bird, B:352 Digraph See Nitrous oxide Blood (Transporting nutrients and Codes and ciphers (Cryptanalysis). Dinka [people], D:174 wastes), B:396 Dinkins, David Norman, D:174 Butterfly, B:687 Dihedral wing Dinner Engagement, A imusic by Dyspepsia, D:366 Aeroplane (The wing), A:89 Berkeley! Fish, F:169 Dihong Iriver, Asial Berkeley, Sir Lennox, B:245 Gastroenteritis, G:60 Brahmaputra River, B:508 Dinner Party, The Iwork by Chicagol Hormone (Metabolic hormones), Dik-dik, D:172 Sculpture (As a record of history), S:186; (Environmental sculpture) Dike Human body, H:354; (Trans on three See Dyke S:218; picture on S:188 nsional picture) H:353 Dilator muscle (anatomy) Dinoflagellate, D:174 with picture Insect, 1:251 Eye (Parts of the eye), E:435 Algae (Other kinds of algae), A:250 Ocean (The plankton), 0:391 with pic Liver (Functions of the liver), L:334 Dill, D:173 with picture Mammal, M:128 Dillinger, John Herbert (American ture Spider, So:220 criminall, D:173 Red tide, R:174 Teeth, T:90 Dillon, James (1902-1986) lirish politi-Dinosaur, D:175 with pictures Digger hunt [Australian history] See also list of Related Articles cian!, D:174 Victoria (History), V:364 Dillon, John (1851-1927) [Irish politi-Adaptation, A:32 Digger wasp cian], D:174 Diplodocus, D:184 Animal (Providing food), A:406 Dillon, John Blake (1816-1866) [irish Earth (The Mesozoic Era), E:27 Diggers' Monument Extinct animal (Types of extinction), politician), D:173 Cape Province picture on, C:137 DiMaggio, Joe (American basebali E:432 Prehistoric animal, P:745; (Evolution Digit playerl, D:174 Arabic numerals, A:488 Dimanche Gras and extinction) P:749 Decimal system, D:68 Trinidad and Tobago (Culture), T:405 Reptile picture on, R:232 Multiplication (Multiplying by one "Dime novels" Diocese digit), M:696 Literature for children (Children's Archbishop, A:506 Numeration systems, N:344 magazines), L:327 Bishop, B:370 Zero, Z:491 Dimension stone Cathedral, C:260 Pope (The powers of the pope), Psf3 Digital circuit Quarrying (Plug and feather method), Religion (How the major religions are Electronics (How electronic circuits

Dimensions of Time and Silence

organized), R:200

lenger disaster) So:160 with pic-

ture

Roman Catholic Church (Dioceses and Direct evidence [law] Ehrlich, Paul, E:130 Diphtheria [disease], D:184 Evidence (Kinds), E:405 parishes), R:338 Diocletian (Roman emperor), D:183 Direct extrusion See also Croup Rome, Ancient (Temporary recovery), Diphthono (language), D:184 Extrusion, E:434 Direct fire ignition Diplodocus [dinosaur], D:184 p:382 Ignition, 1:29 with diagram Dinosaur. D:175 with picture; (Sauro-Sebastian, Saint, S:232 pods) D:177 Direct mail Diocletian, Baths of (ruins) Advertising, A:62 Reptile (The evolution of reptiles), Rome (Baths), R:368 R:233 Direct ophthalmoscope Dlade Ophthalmoscope, 0:476 Electricity (Controlling electricity), Diplomacy, D:184 Direct primary International relations, I:293 E:169 Primary election, P:777 Electronics (Solid-state components). Peace, P:225 Direct reduction system Diplomat [career] F:187 iron and steel (How iron is made), Electronics (Terms used in electron-Diplomacy, D:184 1:390 with picture; 1:391 with pic-Diplomatic asylum ics), E:185 ture Asylum, A:703 Integrated circuit, 1:275 Direct Selling Association (DSA), Diplomatic corps, D:185 Vacuum tube (Kinds of vacuum tubes), Foreign service, F:342 D:186 Direct tax Diplomatic immunity Diode laser Taxation, T:69 Citizenship (The duties of citizens), Laser (Semiconductor lasers), L:73 Direction Cl:15 Dioeclous plant Photography, P:445 Diplomacy, D:184 Botany (table), B:481 Direction of behavlour Extraterritoriality, E:434 Rambutan, R:131 Motivation, M:648 Diplura [entomology] Diogenes (Greek philosopher), D:183 Directional drilling Insect (table), 1:261 Cynic philosophy, Cl:512 Petroleum, P:344 with picture Dipole [magnetism] Magnetism (Magnetic poles), M:55; Director Glycol, G:216 Drama (Early realism), D:298 (Magnetism in atoms) M:56 Diolas (people) Film industry (How films are made), Dipole [radio] Senegal (People), S:251 F:82 with pictures Aerial (Receiving aerials), A:69 Dionaga Film industry (Postproduction), F:88 Diponegoro, Pangeran [javanese polit-Venus'-flytrap, V:343 with picture Film industry (Preproduction), F:83 ical leaderl, D:185 Dione [satel[ite] Film industry (Shooting the film), F:83 Dipper, D:185 with picture Saturn (table), S:101 with picture Opera (The stage director), 0:460 Bird picture on, B:315 Dionne quintuplets Television, T:122; (The producer) Quintuplets, Q:30 Dipping [industrial process] T:121; (Rehearsals) T:123 with pic-Dionysian tendency Rubber, R:436 Diprotodon (prehistoric animal), D:185 ture Nietzsche, Friedrich, N:202 Theatre, T:193 with picture Dionysius Exiguus (Greek scholar) Director system A.D., A:28 Diptera Rangefinder, R:135 Insect picture on, 1:244; (table) 1:262 B.C., B:164 **Directory** [French history] Dirac, Paul Adrien Maurice (British Christian Era, C:483 France (The French Revolution), F:414 theoretical physicistl, D:186 Dionysius II [king of Syracuse] French Revolution (The revolution Damocles, D:17 Antimatter, A:462 ends), F:454 Dionysius the Elder (Greek military Direct broadcasting satellite Television (Satellite broadcasting), Directrix leader), D:183 Cylinder, Ch:511 Dionysus (Greek mythology), D:183 T:120 Parabola, P:158 with diagram Bacchus, Ba15 Direct current (DC) Dirigible Midas, M:444 Converter, Cl:318 Airship, A:217 Mythology (Greek divinities), M:757 Electric circuit, E:143 Balloon, B:60 Electric current (Direct and alternating Diophantus Dirleton (Scotland) Algebra (History), A:260 current), E:143 Lothian Region (Places to visit), L:396 Diopside [mineral], D:183 Electric generator, E:148 Dirndl (clothing) Gem picture on, G:73 Electric motor, E:153 Austria (Way of life), A:839 Dior, Christian [French designer], Electric power (Transmission), E:160 Disability Electricity (Current electricity), E:168; D:183 See Handicapped Diorama (exhibit) (table) E:168 Disabled Railway, Model (Locomotives), R:114 Daguerre, Louis Jacques Mandé, D:5 See Handicapped Diori, Hamani [Nigerien political Direct-current generator Disarmament, D:186 Electric generator, E:148; diagrams on leader) Kennedy, John Fitzgerald, K:217 Niger (History), N:205 E:147 Peace, P:225 Dioxin [chemical], D:183 Direct current motor Disaster, D:187 Agent Orange, A:158 Electric motor, E:154 Counselling, Ch:391 Herbicide (Hazards of herbicides), Direct Distance Dialling (DDD) Earthquake (table), E:33 Telephone (Long-distance calls), T:108 H:162 Flood, F:228 with picture Dip [astronomy] Direct drive Hurricane (table), H:389 Horizon, H:277 Record player (The drive system), Space exploration, So:128; (The Chai-Dip needle [instrument]

R:163

Dye (Kinds of dyes), D:362

Direct dye

Magnetic equator, M:51

Diphtheria antitoxin

Brake, B:521 with diagram

Disc jellyfish (sea animal) Animal picture on, A:394

Disc brake

Disc harrow

Harrow, H:69

Disc-winged bat

Bat (Kinds of bats), B:148 Disciple Aposties, A:473 Disclosing tablet Teeth (Cleaning the teeth), T:93 Disco Dancing (Popular dancing), D:241 Popular music (Pop music), P:684 Discoid lupus erythematosus (DLE) Lupus, L:417 Discomfort index Temperature-humidity index, T:137 Discothèque See Disco Discount interest Interest. 1:279 Discounting Cost-benefit analysis. Cl:373 Discours (poetry by Ronsard) Ronsard, Pierre de, R:385 Discourse on Method (book by Descartes Descartes, René, D:129 French literature (Classical prose). Discourse on Two New Sciences [book by Galtleo] Galileo (Galileo and the Roman Catholie Church), G:13 Discourse on Universal History [book by Bossuet Bossuet, Jacques Bénigne, B:476 Discourse on Woman [book by Mott] Mott, Lucretia Coffin. M:653 Discourse [kinds of discourse] Literature, L:311 Discourses [work by Reynolds] Reynolds, Joshua, R:248 Discoverer isatellitel Satellite, Artificial (Important satellites), 5:96 Discovery

Puerto Rico (Recreation), P:847 Discovery of a Most Exquisite Jewel (book by Thomas Urguhart) Crichton, James, Ci:424 Discovery [ship] Cook, James (The third voyage), Ci:331

Exploration, E:417

Invention, 1:310

Discovery Day

Hudson, Henry (North American voyages), H:338 Jamestown, J:24 Discovery [space shuttle]

National Aeronautics and Space Administration (NASA), N:30

Discrete function [mathematics] Algebra (Functions), A:257

Discrimination AIDS (Social issues), A:181 Perception (Understanding perception). P:278

Races, Human (Race and discrimination), R:49

Segregation, \$:239

United States, History of the, U:260 Discus throw (sport), D:188 with pic-

Athletics (Throwing events), A:712

Discus Thrower, The [statue] Europe picture on. E:368

Disease, D:189 with pictures

See also list of Related Articles Animal (Importance of animals), A:378

Balance of nature (Maintaining the balance), B:34

Cotton (Care during growth), Ci:385 Famine (Effects of famine), F:25

Goat. G:223

Health, H:94

Heredity (Hereditary disorders), H:169 with table

Liver (Diseases of the liver), L:335 Lung. L:415

Medicine, M:306 with pictures; (The scientific study of disease) M:316 Pet (Treating illness), P:323; (Prevent-

Ing illness) P:323

Quarantine, 0:7 Races, Human (Susceptibility to genetic diseases), R:48

Veterinary medicine, V:352 with pic-

Water pollution (Effects), W:89 Weight control (Diseases and other causes). W:134

Disease prevention

Health (Medical and dental care), H:95

Mask, M:240 with pictures

Disguised symbolism [art] Campin, Robert, C:64

Van Eyck, Jan, V:311 Dish aerial Iradiol

Aerials (Dish aerials), A:70 Astronomy (Radio telescopes), A:694 Telescope (Radio telescopes), T:114

Dish

Porcelain, P:687 Pottery picture on, P:723 Stoneware, So:336

Dishcloth gourd Gourd, G:266

Disinfectant, D:199

See also list of Related Articles Bacteria (Protection against harmful bacteria), B:20 lodine (Uses of iodine), 1:324

Ultraviolet (Uses of ultraviolet rays),

Disinherited, The [book by Allen] Allen, Hervey, A:272

Disjoint set

Set theory (Intersection of sets), S:276 with diagram Set theory (Overlapping sets and dis-

joint sets), S:275 Set theory (Union of sets), S:275 with

Disk drive

diagram

Computer (How a computer works) Ci:258 with pictures; (Decoding the results and producing output Ch260

Diskette

Computer, Personal (Hardware). CI:269

Dislocation (injury), D:199 First aid, F:146

Hip. H:217

Joint, J:137

Dismal Swamp, D:199 with picture Diemiesal

Cricket, Cl:426 with pictures

Disney, Walt American film produced D:200 with pictures Animation, A:422; (Animation in the

Disperse dve

Dye (Kinds of dyes), D:362

mid 's) A:422

Dispersion (chemistry) Colloid, Cl:166

Émulsion, E:233

Dispersion [physics]

Gem (Qualities of gem materials), G70 Light (Dispersion), L:262

Displaced person Immigration, 1:35 Refugee, R:187

> World War II (Displaced people), W:406 with picture

Displacement behaviour, D:202 Personality (Freud's psychoanalytic

theory), P:300 Display, The work by Williamson

Williamson, Malcolm, W:259

Display ad

Advertising (Newspaper), A:61 Newspaper (Advertising), N:183 Display

Radar, R:61 Display calculator

Calculator, C:24

Display model

Aeroplane, Model, A:106

Disposable income

Income (Uses of personal income), 150 Disposable thermometer

Thermometer, T:216

Dispossessed, The (book by Le Gulal

Le Guin, Ursula, L:156 Disraeli, Benjamin (British political

leaderl, D:202 with portrait Conservative Party (Policies), Cl:305 United Kingdom, Government of the (table), U:115; (The 1800's) U:123

D'Israeli, Isaac [English author] Disraeli, Benjamin, D:202

Disruptive coloration

Protective coloration, P:812 with pic tures

Dissection (anatomy)

Anatomy, A:350

Medicine (The Renaissance), M:315 Dissenters

United Kingdom, History of the, Ulli Dissociative disorder

Mental illness (Dissociative disorders) A4:352

Mental illness (Anxiety and related disorders), M:352 Distance, D:202 Calculus (Differential calculus), C:25

Measurement, M:294

Metric system, M:386

Weights and measures (Length and distance), W:137

Distance learning Open University, 0:455

Distance measuring equipment Aeroplane (Radio navigation), A:103

Navigation (Omnirange), N:54

Distance receiving senses [anatomy] Senses (External senses), S:255

Distant Relations (book by Fuentes)

Fuentes, Carlos, F:480 Distemper [disease], D:202

Pet (Preventing Illness), P:323

Distillation, D:203

Distillate oil

Fuel (Liquid fuels), F:478 Petroleum (Petroleum as a fuel), P:337

Distillation, D:202 with diagrams

Evaporation (Uses of evaporation), E:403

Maize (The fermentation and distilling industry), M:75

Perfume (Plant substances), P:280

Petroleum (Refining petroleum), P:348 with diagram

Water (Fresh water from the sea), W:79

Distilled beverages

Alcoholic beverage, A:238 Distilled drink

Alcoholic beverage, A:237

Distilled water

Distillation, D:202

Water (Distillation), W:79 Distilling (liquor), D:204

Alcoholic beverage (Distilled bever-

ages), A:238 Distillation (Simple distillation), D:203 Maize (The fermentation and distilling

industry), M:75 Whisky, W:229

Distortion

Map (Map projections), M:187 Distress signal

Flag (Flying the flag upside down), F:217

Signalling, S:416

Distribution

Economics (Distribution of incomes), E:62; table on E:65

Film industry, F:94

Food supply, F:313

Manufacturing, M:169

Marketing, M:213

Trade (The use of markets), T:325 United States, History of the, U:253

Distribution line

Electric power (Distribution), E:160 Gas (Transmitting and distributing gas), G:54

Distribution substation

Electric power picture on, E:157; (Dis-

tribution) E:160

Distribution transformer Electric power (Distribution), E:160

Distributive industry

Industry (Other systems of classification), 1:224

Distributive Law of Multiplication over Addition

Algebra (Fundamental laws), A:255; (Addition) A:256; (Multiplication) A:256

Distributor (business)

Film industry (Distribution), F:94

Distributor (mechanics)

Ignition (The conventional electronic ignition system), I:29

Petrol engine (Ignition system), P:334

Distributor cam

ignition (Development of ignition systems), 1:29

District

County (Administrative counties), Cl:397

District court

Australia, Legal system of (Intermediate courts), A:828

District of Columbia (D.C.), D:204

United States (Political divisions),

02003

Washington, D.C., W:53

District of Columbia Inovel by Dos

Dos Passos, John, D:271

Disulfiram [druq], D:204

Drug abuse (Treatment of drug abuse),

Ditch

Drainage (Surface drainage), D:280 with picture

Daman and Diu, D:16

Diuretic (drug), D:204

Drug, D:313

Oedema, 0:412

Diurnal torpidity

Hibernation (Other kinds of dormancy), H:188

Divali [festival]

Feasts and festivals (In Hinduism), F:40

Dive (water sport) Diving, D:206

Diver [bird]

Loon, L:382

Divergence [mathematics]

Series (Working with infinite series), S:270

Divergence [physics]

Laser (Characteristics of laser light),

L:72

Diverging lens Lens, L:174

Diversification

Industry (Structure), 1:224

Diversified farming

Agriculture (Mixed farms), A:165 Diversity and Depth in Fiction | work

by Wilson

Wilson, Sir Angus, W:261

Diverticulitis [disease], D:204 with dia-

"Diverting History of John Gilpin, The" [poetry by Cowper]

Cowper, William, Cl:410

Divide [geology], D:204 with diagram River (The source of a river), R:289; di-

agram on R:291

Valley, V:303

Divided colour technique

Impressionism, I:46

Dividend

Bankruptcy, B:95

Division (Writing division), D:210

Horse racing (Betting), H:308

Insurance, I:273

Divider [instrument], D:205

Divination, D:205

Inca. I:49

Well (Locating wells), W:144

Divine Comedy, The [poem by Dante], D:205

Allegory, A:272

Dante Alighieri, D:31

Italian literature (The Middle Ages),

1:445

Italy (Literature), 1:456

Literature, L:314

Longfellow, Henry Wadsworth, L:378

Poetry (Medieval poetry), P:615 Roman Catholic Church, R:335

Virgil (His influence), V:401 Divine grace (religion)

Luther, Martin (Justification by faith),

L:418

Divine Liturgy (religion)

Eastern Orthodox Churches (Services),

E46 Liturgy, L:332

Mass, M:244

Divine Milieu, The book by Tellhard

de Chardin

Teilhard de Chardin, Pierre, T:99

Divine monarch

Royal families, R:418

Divine Office ireligion

Benedictines, B:235

Eastern Orthodox Churches (Services), E:48

Divine proportion

See Golden section

Divine right of kings, D:206

England (The first Stuarts), E:278 French Revolution (Background), F:451

Government (Sovereignty), G:267

James I, J:20

Petition of Right, P:327

Diving, D:206 with diagrams

Dolphin (Swimming and diving), D:253 Olympic Games table on, 0:440

Diving beetle

Beetle (Predacious diving beetles), B:198 picture on B:199

Water beetle, W:84

Diving bell

Diving, Underwater (History), D:209 with pictures

Diving petrel [bird]

Petrel, P:328

Diving plane

230 Diving suit Submarine, So:368 with pictures Diving suit Diving, Underwater (Surface-supplied diving), D:208 with picture; (History) D:209 Helium picture on. H:144 Diving, Underwater, D:207 with pictures Divining rod Hazel, H:92 Well (Locating wells), W:144 Division [biology] Classification, Scientific (How organisms are classified), Ci:67; (Groups in classification) Cl:67 Division [mathematics], D:210 with pic-Algebra, A:253, A:254, A:257 Algorithm, A:267 Arithmetic, A:572 with picture Decimal system, D:70 Factor, F:4 Fraction, F:387 Logarithm, L:361 Numeration systems (Decimal arithmetic), N:346; (Binary arithmetic) N:347; (Hexadecimal arithmetic) N:347 **Division facts** Division (Writing division), D:210 Division of Labour, The (book by Durkheim] Durkhelm, Émile, D:356 Division of labour Industrial Revolution (Growth of the Industrial Revolution), 1:212 Marx, Karl (Production and society), M:235 Mass production, M:245 Trade and specialization, T:324 Women's movement (Origins of women's traditional roles), W:293 Divisor Algorithm, A:267 Division (Writing division), D:210 Divorce, D:214 Family (Family problems), F:21 Dixle Inickname, southern U.S.J, D:215 "Dixle" [song], D:215 Dixon, Joseph [American inventor], Dixon, Sir Owen [Australian lawyer], D:215 Dizygotic twin Multiple birth (How multiple births occur). M:693 Dizziness [disorder], D:215 Ear (Disturbances of the organs of balance), E:11 Diakarta See Jakarta Djanggau Sisters Australian Aborigines (Gods and god-

desses), A:838

Djerma-Songhai (people)

Djibouti [city], D:217 with picture

Niger (People), N:203

Djenné

See lenne

Dibouti [country], D:216 with picture and maps Flag picture on, F:200 Djohar, Said Mohamed (Comoran political leaderl Comoros (History), Ci:246 **DMSP** [satellite] Satellite, Artificial (Important satellites), S-96 DN liceboatl Iceboating (History), I:19 See Deoxyribonucleic acid DNA fingerprinting, D:217 Police laboratory (Analysing the evidence). P:644 **DNase** [drug] Cystic fibrosis, Ci:515 **Dnepr-Pripyat Lowland** Ukraine, U:9 Dnepr River, D:218 Ukraine, U:9 Dneproges Dam (Ukraine), D:218 Dnepr River, D:218 Dnepropetrovsk (city, Ukraine), D:218 Dnestr River [river, Europe], D:218 Moldova (Land and climate), M:528 Do I Hear a Waltz? (music by Rodgers) Rodgers, Richard, R:330 Do With Me What You Will book by Oates Oates, Joyce Carol, 0:376 Dobell, Sir William (Australian painter), D:218 with portrait Australia, Art and architecture of picture on, A:785 Döbereiner, Johann [German chemist] Furfural, F:491 Doberman pinscher, D:218 with pic-Doble, J. Frank (American author), Dobrovolsky, Georgi (Russian astro-Space exploration (Salyut and Skylab), So:155 Dobruja [region] Romania, R:354 Dobson fly Hellgrammite, H:145 Dobson, Frank [British sculptor], D:219 Dobson, Rosemary (Australian poet), D:219 Australia, Literature of (Modern short stories), A:832 Dobzhansky, Theodosius (American biologisti Evolution (The synthetic theory), E:412 Dock [plant], D:220 Dock [shipping], D:219 Docking [manoeuvre] Space exploration, So:138; (Space stations) So:155 **Docking well** Warship (Amphibious warfare ships),

W:43

system), P:715

Address, Forms of, A:41 Australian Aborigines (Magic and Aboriginal doctors), A:838 Medicine, M:306 with pictures Doctor, The [poetry by Southey] Southey, Robert, So:122 **Doctor blade** Printing (Gravure presses), P:785 Doctor Brodie's Report work by Borges Borges, Jorge Luis, B:468 **Doctor Dolittle** [literary figure] Lofting, Hugh, L:358 with picture Doctor Faustus [play by Marlowe] Marlowe, Christopher, M:215 **Doctor No (book by Fleming)** Fleming, Ian Lancaster, F:225 Doctor Strangelove [film] Film industry (International films in the 1960's and 1970's), F:106 with pic-Kubrick, Stanley, K:340 Doctor Thorne [book by Trollope] Trollope, Anthony, T:412 Doctorfish, D:220 with picture Doctorow, E.L. (American writer) American literature (Fiction and other prose), A:320 Doctor's expense insurance Insurance (Basic types of health Insurance), I:273 Doctor's Son, The [book by O'Hara] O'Hara, John, O:417 **Doctrine and Covenants** book by Smith Latter Day Saints, Reorganized Church of Jesus Christ of,, L:101 Smith, Joseph, S:499 Doctrine of national selfdetermination Nationalism (The rise of nationalism), N:44 Doctrine of the Two Swords religious document) Church and state (The Middle Ages), C±501 Document of title Bill of lading, B:292 Document retrieval system Information retrieval (Kinds of retrieval systems), I:233 Documentary Journalism (Television), J:150 Television (Commercial television). T:119 Documentary photography Photography (The photographic revo lution), P:463 with picture Dodder [weed], D:220 **Dodecagon** [geometry] Polygon, P:661 Dodecahedron (geometry) Polyhedron, P:661 with diagram Dodecanese Islands lislands Aegean Seal. D:220 Dockwra, William (English merchant) Rhodes, R:256 Post office (Development of the postal **Dodecaphonic music**

Dallapiccola, Luigi, D:9

Doctor

Dodge brothers [American businessmenl, D:220

Dodge City [Kansas], D:220

Dodge, Horace Elgin | American inven-Car (The Dodge brothers), C:169

Dodge brothers, D:220 Dodge, John Francis (American busi-

nessman) Car (The Dodge brothers), C:169

Dodge brothers, D:220 Dodge, Mary Elizabeth Mapes (American author], D:220

Dodging [photography]

Photography (Printing black-and-white photographs), P:454 with picture

Dodgson, Charles Lutwidge See Carroll, Lewis

Dodo (extinct bird), D:221 with picture Bird (Extinct birds), B:356 with picture

Dodoma [Tanzania], D:221 Tanzania, T:31

Dodsworth (book by Lewis) Lewis, Sinclair, L:199

Deer, D:78 Goat. G:221

Doenitz, Karl [German admiral], D:221 World War II (Victory in Europe),

W:394

Dog, D:222 with pictures

Animal (Adaptations for sensing the environment), A:401; (Courtship behaviour)A:405

Animal (Animals and people), A:379 Animal (Providing protection), A:408 Blindness (Overcoming blindness),

Canine parvovirus, C:126 Flea (Controlling fleas), F:224 Heart diagram on, H:113 Heredity (The structure of chromosomes and genes), H:166

Mammal diagrams on, M:129 Pet (Pets for the home), P:319 with pic-

Dog-day cicada (insect) Cicada, Cia

Dog handler

Police (Search and rescue teams), P:640

Dog on the tucker box, D:240 Dog paddle

Swimming (Other strokes), So:485 Dog-proof fences, D:240

Dog racing

Greyhound racing, G:373 with picture Dog show

Dog, D:239 Dog sledge

Greenland picture on, G:363 Sledge, S:483

Dog Star

Calendar (The Egyptians), C:35 Sirius, S:456

Dog Years (book by Grass) Grass, Günter, G:304 Dog, Guide, D:240

Doghane, D:241 with picture

Doge Italian history), D:241

Dogfish, D:241 with picture Fish picture on, F:173

Dogger Bank [sandbank], D:241 Doggett, Thomas [comedian] Rowing (History), R:415

Doggett's Coat and Badge Rowing (History), R:415

Dogleg

Golf (The course), G:244

Dogra dynasty

lammu and Kashmir (History), J:27 Dogs, Isle of (island, London), D:241

Dogteeth

Teeth (Permanent teeth), T:90

Dogtooth violet, D:241 with picture Dogwood [botany], D:242 with picture Doha [Qatar], D:242

Oatar picture on, Q:3

Doherty, Sean [Irish politician], D:242 Dojo

ludo, 1:159

Dolbear, Amos E. [American physicist], D:242

Doldrums [weather], D:242

Calms, Regions of, C:43

Trade wind, T:332

Weather (General circulations of the atmosphere), W:113

Wind (General circulation), W:267

Dolgellau [Wales]

Gwynedd (Places to visit), G:439 Dolin, Sir Anton British dancer, D:242

Doll, D:243 with pictures Papier-mâché, P:139 with pictures

Dollar (money), D:249

Dollar Decade

Roaring Twenties, R:299

Dollarfish

See Butterfish

Doll's House, A iplay by ibsen Drama (Modern drama), D:298

Ibsen, Henrik, 1:4

Realism (In drama), R:160

Dolls' house, D:249 with picture Dolmathes |food|

Greece (Food and drink), G:335

Dolmeh [food]

Iran (Food and drink), 1:337

Dolmen [archaeology]

Ireland, History of (Early peoples), 1:366 with picture

Megalithic monuments, M:324

Dolmetsch, Arnold, D:250 Dolmetsch, Carl, D:250

Dolomite [mineral], D:250

Dolomites [mountains, Italy]

Alps (Chief ranges of the Alps), A:285 Dolores [Mexico]

Hidalgo y Costilla, Miguel, H:193

Whale, W:207 Dolphin [fish], D:254

Fish picture on, F:160

Dolphin [sea animal], D:250 with pic-

Animal (Fins, tails, and flippers), A:398 Killer whale, K:250

Mammal pictures on, M:126 Pilot whale, P:501

Sonar, So:39

Tuna, T:438

Whale, W:207

Dolphin kick

Swimming, So:484

Dom Casmurro book by Machado de

Brazil (Arts), B:536

Latin-American literature (Realism),

Domagk, Gerhard [German doctor], D:254

Domain of the variable

Set theory (in algebra), S:276

Dome [architecture], D:254 with picture Architecture (Roman architecture),

A:522 with picture; picture on

Byzantine art (Architecture), B:696 Vault, V:320

Dome mountain

Mountain, M:667

Dome of the Rock

Jerusalem (Holy places), J:93 with pic-

Dome tent

Tent (Kinds of tents), T:152 with pic-

Dome vault (architecture) Vault, V:320 with picture

Domesday Book and Beyond (book by

Maitland Maitland, Frederic William, M:70

Domesday Book (English history), D:254

Book picture on, B:454

Census (Early censuses), C:315 England (The Norman Conquest),

E:275

William I, the Conqueror, W:255

Domestic animais

Cat, C:243 with pictures

Cavy, C:287

Dog, D:222 with pictures

Goat, G:221; pictures on G:223

Domestic industry

Industrial Revolution (Growth of the industrial Revolution), 1:212

Domestic science

Dietitian, D:170

Domestic system

Family (The family in Western culture), F:22

Industrial Revolution picture on, 1:211; (Life during the Industrial Revolution) 1:215

Textile industry (During the Middle Ages), T:175

Domestic trade

International trade, I:297 Trade, T:324

Domestic tragedy

Drama (England), D:294

Tragedy, T:335

Domestication Agriculture (History of agriculture),

Animal (Animals and people), A:379 with pictures

Doolittle, James Harold (American Civilization (How civilizations develop), Don Juan [play by Molière] Molière, M:534 pilot], **D:267** Dog (History), D:239 Don Juan (poetry by Byron) Doom palm Mammal (How people use mammals), Byron, Lord (Byron's life), B:695; See Doum palm M:126 (Byron's poetry) B:696 **Doomsday Book** Plant (How people have changed Don Pasquale [opera by Donizetti] See Domesday Book plants). P:566 Donizetti, Gaetano, D:266 Doon [river, Scotland], D:268 Prehistoric people (The rise of agricul-Don Oulxote [nove] by Cervantes]. Doon Valley Cumnock and Doon Valley, Ci:497 ture), P:758 D:263 with picture Dominance [behaviour], D:254 Cervantes, Miguel de, C:329 Dopamine Balance of nature (Behaviour), B:35 Amadis of Gaul, A:296 Brain (Brain chemistry and mental ill-Dog (Communication), D:236 ness), B:516; (How drugs affect Literature (novel), L:315 Mammai (Group life), M:133 Novel (Later European narratives), brain chemistry) B: 516 Brain (Parkinson's disease), B:518 Wolf (Habits), W:285 Dominance hierarchy Proverb, P:820 Brain (The brain's chemical messen-Animal (Group living), A:410 Spanish literature (The 1600's), So:194 gers), B:516 Dominant gene abnormality Don River (river, Russial, D:263 Mental illness (Chemical imbalances) Muscular dystrophy, M:716 Donahoe, Jack [Australian bushranger]. A4:353 Dominant group [sociology] D:263 Parkinson's disease, P:189 Minority group, M:499 Wild Colonial Boy, W:248 Schizophrenia, \$:125 Domingo, Placido [Spanish tenor]. Donald, Ian (Scottish obstetrician) D:255 Medicine (Other technological ad-Electronics (Types of electrical cir-Dominic, Saint (Spanish religious vances), M:319 cults). E:186 leaderl, D:255 Donatello (Italian sculptor), D:264 with Done Albigenses, A:234 picture Electronics (Solid-state components), Dominicans, D:262 Dragon picture on, D:279 Religious life (The Roman Catholic Renaissance (Arts of the 1300's and Doped crystal Church), R:208 early 1400's), R:218 with picture Electricity (Sources of electricity), Dominica, D:255 with pictures and map Sculpture (Early Renaissance), S:211 E:168 CARICOM, C:199 with picture Doping Flag picture on, F:203 Donatl, Gemma [wife of Dante] Electronics (Terms used in electron-Roseau, R:400 Dante Alighieri, D:31 ics), E:185 Dominican Republic, D:237 with pic-Doncaster [England], D:264 Integrated circuit (Structure), 1:276 tures and map Donegal [ireland], D:264 with pictures Doppler effect, D:268 Flag picture on, F:203 and man Log (The Doppler sonarspeed log), Latin America (The West Indies), L:91; Arms picture on, A:587 L:359 with diagram (Latin America and the United Donets River [Ukraine] Navigation (Satellite navigation), N:55 States) L:93 Don River, D:263 Red shift, R:174 with picture Organization of American States, Donetsk, D:266 Sound (The speed of sound), So:49 0:496 Donetsk [city], D:266 with diagram World War II (table: The Allies), W:381 Donizetti, Gaetano Iltalian composeri, Stark, Johannes, So:294 Dominicans, D:262 Doppler radar Dominic, Saint, D:255 Opera (Lucia di Lammermoor), 0:470 Radar, R:59 Friar, F:458 Donion Tornado (Protection against tor-Dominion Castle, C:234 nadoes), T:301 Ireland, History of (The Treaty of 1921), Donkey, D:266 with picture Doppler sonar speed log 1:377 Donne, John (English poet), D:267 Log, L:358 with diagram Dominoes [game], D:262 Doppler, Christian [Austrian scientist] Brodsky, Joseph, B:584 Domitian [Roman emperor], D:263 Metaphysical poets, M:378 Doppler effect, D:268 Agricola, Gnaeus Julius, A:160 Donnelly, Ignatius | American politi-DORA [Defence of the Realm Acts], Domitius Ahenobarbus, Gnaeus [facian], D:267 D-268 ther of Donoghue, Steve (British jockey). Dorado Nero, N:80 D:267 Dolphin [fish], D:254 Domitius, Lucius **Donor site** [medicine] Dorand, René [French inventor] See Nero Skin grafting, \$:473 Helicopter (The first practical helicop Don's Party [work by Williamson] ters), H:141 Uruguay (Recreation), U:282 Williamson, David, W:258 Dorchester (England) **Domus Aurea** "Don't be Cruel" [song] West Dorset, W:162 Rome (Other remains), R:368 Presley, Elvis, P:770 Dorchester, Baron Don Giovanni lopera by Mozarti Doodlebug linsect larval Carleton, Sir Guy, C:200 Mozart, Wolfgang Amadeus (Operas), Ant lion, A:435 Dore metal M:682; (His style) M:682 Dooley, Thomas Anthony, III [Ameri-Assaying (Dry process), A:671 Opera (Recitative and arias), 0:458; Doré, Gustave [French artist], D:268 can doctor), D:267 (Don Giovanni) 0:469 with picture **Doolittle Raid** [1942] with picture Don Juan Iliterary figurel, D:263 Doolittle, James Harold, D:267 Dorians [ancient Greeks], D:268 Tirso de Molina, T:263

World War II. W:396

etry), A:317

Doolittle, Hilda (American poet), D:267

American literature (Modernist po-

Don Juan Tenorio lplay by Zorrillal

Spanish literature (The 1800's), So:195

Don Juan, D:263

Greece, Ancient (History), G:352

Sparta (History), So:202

Doric column [architecture] Architecture (Classical Greek architer

ture), A:521 with picture Column (The Greek orders), Cl:213 with picture

Doric order [architecture] Architecture (table), A:515

Dormancy

Aestivation, A:109 Germination, G:141 Hibernation (Other kinds of dor-

mancy), H:190

Seed (How seeds are spread), S:236 with pictures

Dormer window

Window, W:271

Dormouse [animal], D:268 with picture Dornier Do X

Aeroplane (The golden age), A:80 with picture; (Engineering improvements) A:83

Dornoch (Scotland)

Highland Region (Places to visit), H:199 Dörpfeld, Wilhelm [German archaeolo-

Troy (The archaeological Troy), T:422 Dorsal fin

Dolphin (The bodies of dolphins), D-252

Fish (Fins), F:167 with picture

Remora, R:212 Dorset [county], D:269 with picture and

Arms picture on, A:585

Des Passos, John (American novelist),

American literature (Realist fiction),

A-31R Impressionism (Music, literature, and

sculpture), 1:47 Dosimeter linstrument

Electroscope, E:195 with picture Dosser in Springtime | work by Stew-

Stewart, Douglas, So:323

Dost Muhammad Khan lemir of Afghanistanl

Afghanistan (United Afghanistan), A:114

Dostoevsky, Fyodor (Russian author), D:271 with portrait

Novel (Russia), N:313

Russian literature (The 1860's and 1870's), R:499 Douala (Cameroon), D:271

Cameroon (People), C:59

Donay Bible

Bible (Early English translations), B:276 Vulgate, V:429

Double, The Inovel by Dostoevskyl Dostoevsky, Fyodor, D:271

Double-action principle Steam engine (Watt's engine), So:308 Watt, James, W:101

Double action revolver Handgun, H:42

Double-action semiautomatic pistol Handgun, H:43

Double bass

Bass imusical instrumenti, **B:142** Double calliper (instrument)

Calliner, C:42

Double coconut palm Palm (The fruits), P:106

Double-crested cormorant

Cormorant, Ci:356 with picture **Double crochet**

Crocheting, Ci:447 Double-cross hybrid

Maize (Development of hybrids), M:75

Double drummer (insect) Cicada, Cl:1 with picture

Double-entry bookkeeping

Bookkeeping, B:461 Double fertilization

Pollen (Fertilization), P:656

Double hellx [biology]

Heredity (The structure of DNA), H:170 with picture

Molecular biology (The beginning of molecular biology), M:532

Watson, James Dewey, W:101 Double hung window

Window, W:271

Double knit

Textile (Weft knitting), T:171

Double lever

Lever (Classes of lever), L:197

Double-pole, single-throw switch Electric switch, E:164

Double predestination

Predestination, P:741

Double star

Binary star, B:296

Earth (The birth of the solar system),

Telescope (X-ray telescopes), T:115

Double vision

Eye (Defects of the eye), E:439

Double weave

Weaving (Fancy weaves), W:125

Doubleday, Abner IU.S. Army officer and sportsmanl, D:272 Baseball (History), B:131

Doubles Tennis, T:142

Doublet

Clothing (The Renaissance), Cl:102 Gem (Imitation and synthetic gems),

G:73

Tartan, T:45 Doubloon [coin], D:272 with pictures

Doubt [psychology] ludgment, 1:158

Doubting Thomas Thomas, Saint, T:223

Douc langur

Monkey picture on, M:565 Dough [drink]

Iran (Food and drink), 1:335

Dough |food|

Bread (How yeast bread is made), B:548

Flour, F:237

Doughnut [food], D:272

Doughnut Inuclear physicsl Betatron, B:262

Doughty, Charles Montagu British author], D:272 Doughty, Thomas [American artist]

Hudson River School picture on, H:340

Douglas, Donald Wills (American aircraft manufacturerl, D:272

Douglas, John Sholto

See Queensberry, Marquess of Douglas, Lloyd Cassel American au-

thori. D:272

Douglas, Norman (British writer), D:272

Douglas, Roger New Zealand politicianl New Zealand, History of (New Zealand

since 1972), N:175 Douglas, Sir James (Canadian govern-

ment officiall, D:272

Douglas Aircraft Company Inc. Douglas, Donald Wills, D:272

Douglas, Thomas See Selkirk, Earl of

Douglas (Isle of Man), D:272 Man, Isle of (Services and industry),

A4:140

Douglas DC-3

Aeroplane (Engineering improvements), A:83 with picture

Douglas fir, D:273 with picture Fir. F:124

Plant picture on, P:544 Tree pictures on, T:386 Veneer, V:326

Douglas-Home, Alexander Frederick See Home, Lord

Douglas of Kirtleside, Lord (British air commanderl, D:273

Douglas, William Sholto

See Douglas of Kirtleside, Lord Douglass, Frederick (American social

reformer], D:273 Abolition movement (In the United

States), A:13 American literature (Nonfiction prose),

A:314 Doukhobors [religious group], D:274 Douiton, Sir Henry British pottery

makerl, D:274

Doum palm, D:274

Douro River [river, Spain/Portugal] Portugal (Rivers), P:702

Dove, D:274 with picture Bird picture on, B:325 Pigeon, P:494; picture on P:496

Turtle dove, T:475 with picture Dove, Arthur Garfield (American

painterl, D:274 "Dover Beach" [poem by Arnold]

Arnold, Matthew, A:598 Dover [England], D:274 with picture

Kent (Local government), K:219 Dover, Cliffs of [England]

Rock (Organic sediments), R:308 United Kingdom (The English Lowlands), U:55

Dover, Strait of, D:274 with map English Channel, E:280

Dovga [food]

Azerbaijan (People), A:896 Dow Jones & Company

Dow Jones averages, D:275

D'Oyly Carte Opera Company

Dow Jones averages [economics], D'Oyly Carte, Richard, D:278 ture D:278 D'Oyly Carte, Richard [British theatre Dragon of Komodo Dow metal manager], D:278 Komodo dragon, K:316 with picture Dragon Seed (book by Buck) Alloy (Alloys for strength and light-Gilbert and Sullivan, G:158 ness), A:278 Dr. Faustus [book by Mann] Buck, Pearl S., B:608 Dragonfly [insect], D:279 with picture **Dow process** German literature (Characteristics of Insect picture on, 1:255 (table) [:26] Magnesium (How magnesium is ob-German literature). G:106 Prehistoric animal (The move onto tained), M:51 with diagrams Dr. Knock lolay by Romainsi Dowding, Lord [British air commander], Romains, Jules, R:335 land), P:744 with picture D:275 Dr. Mabuse, the Gambler film by Dragon's blood [chemical] Dowland, John [English composer], Langl Photoengraving and photolithography D:276 Lang, Fritz, L:47 (Line engravings), P:436 Down, County [Northern Ireland]. Dr. Zhivago (book by Pasternak) Dragons of Eden, The Ibook by Sagan D:276 Pasternak, Boris, P211 Sagan, Carl Edward, S:17 Arms picture on, A:588 Russian literature (Recent Soviet litera-Dragon's Teeth (book by Sinclair) Down [local government district, Northture), R:501 Sinclair, Upton, S:432 ern Ireland], D:276 Drabble, Margaret (English novelist), Drainage basin Down feather River (The source of a river), R:289 Bird (As a source of food and raw ma-Draco [Greek lawmaker], D:278 Drainage [agriculture], D:280 diagram terials), B:317 Law (The influence of ancient Greece). on D:281 Camping (Sleeping bags), C:65 I:113 Irrigation (Providing artificial drain-Duck (The features of a duck), D:337 Draconian Code age), I:408 Feather (Kinds and parts of feathers). Draco. D:278 **Drainage** [domestic] Dracula [book by Stoker], D:278 Plumbing (The drainage system), P397 Down in the Valley [musical by Weill] Stoker, Bram, So:333 with picture Weill, Kurt, W:141 Transylvania, T:365 Drainage divide Down Second Avenue (book by Draft (banking), D:278 River (The source of a river), R:289 Mphahlele) Bill (in accounting), B:292 **Drainage** net South Africa (Arts), So:61 Bill of exchange, B:292 River (The source of a river), R:289 Down syndrome, D:277 Commercial paper, Cl:219 Amniocentesis,, A:363 Letter of credit, L:188 Bicycle (Early bicycles), B:283 with pic Brain (Genetic disorders), B:517 Negotiable Instrument (Forms), Na69 ture Heredity (Mutation), H:168 Draft [military] Drake Mental retardation (Single causes), Conscription, Ci:291 Duck. D:337 M:357 **Drag** [manufacturing] Drake, Edwin Laurentine (American Mutation, M:747 Cast and casting (How castings are businessman) Down to Earth (book by Prince Philip) made), C:231 with diagram Petroleum (Beginnings of the all In-Philip, Prince, P:367 Drag [physics] dustry), P:352 Downing Street (Westminster, En-Aerodynamics (Principles of aerody-Drake, Sir Francis (English naval com gland], D:277 namics), A:71 with diagram manderl, D:280 with portrait Downing the Nigh Leader [painting by Aeroplane, A:96 with diagram; (The Elizabeth I (Spanish Armada), E:213 Remington) Exploration (table), E:421 with map: wing) A:89 Remington, Frederic, R:212 Kite (How kites fly), K:291 (The search for a northern pas-Downing, Sir George **Drag harrow** sage) E:422 Downing Street, D:277 Harrow, H:69 Plymouth, P:605 Downpatrick [Northern Ireland], D:277 **Drag racing** Drakensberg [mountains], D:288 Downs, D:277 Car racing, C:181 Free State, F:431 Down's syndrome **Drag rope** Kwazulu-Natal, K:347 See Down syndrome Balloon (Operating a gas balloon), Lesotho (Land), L:185 "Downstream II" (poem by Kinsella) B:62 South Africa, So:62 Kinsella, Thomas, K:285 Drag-type rake Transvaal (Land features), T:367 Downwelling [oceanography] Rake (The side-delivery rake), R:126 "Drake's Drum" (poem by Newbolt) Ocean (Currents), 0:394 Drag-type tachometer Newbolt, Sir Henry, N:176 Downy mildew [plant disease] Tachometer, T:4 Dram (unit of measure) Grape (Diseases and pests), G:298 **Dragline** Apothecaries' weight, A:473 Lettuce (Diseases and insect pests), Construction equipment (Earth-moving Drama, D:284 with pictures L:195 machinery), CE310 See also list of Related Articles Mildew, M:463 Gold (The dredge), G:232 American literature, A:318 Parasite picture on, P:171 Mining (Dredging), M:492 Arabic literature, A:489 Dowry Spider (How spiders use silk), So:221 Europe picture on, E:369 Africa (Marriage and the family), A:126 Expressionism (Expressionist drama) Timber (Transporting logs), T:249 Marriage (Marriage in other cultures). Drago Doctrine (international relations) F:431 M:219 French literature (Romantic drama), Drago, Luis María, D:279 Dowser Drago, Luis María [Argentine states-F:448 Divination, D:205 Greece, Ancient picture on, G:353 man], D:279 Doyle, Sir Arthur Conan British au-Dragon and the Unicorn, The Work Greek literature, G:357 thor), D:277 by Rexrothl Irish literature, 1:383 Holmes, Sherlock, H:248 Rexroth, Kenneth, R:247

Dragon [mythical beast], D:279 with pic-

Japan (Theatre), J:45

Literature (Forms of Literature), 1:312

See the list of playwrights in the Related Articles of the Drama article Draper, Charles S. |American scientist| Gyroscope (History), G:446

inertial guidance (History), 1:227 Drapier's letters (book by Swift) Swift, Jonathan (Swift's other works), Sn:482

Draught horse Horse, H:289 Draughting

Technical drawing, T:81 with picture Draughts (game), D:302 with picture Dravidian languages

Dravidians, D:303 India, Languages of, I:123

Language (Language families), 1:52

Dravidians (Indian history), D:303 Asia (The people), A:633 Religion (Hinduism), R:202

West Bengal (Early empires), W:160 Draw works

Petroleum (Rotary drilling), P:343 Drawbar Tractor, T:323

Drawbridge

Bridge, B:564 with pictures Castle (Medieval castles), C:236

Drawer weight Archery (Bows), A:507 Drawing, D:303 with pictures

Cartoon (Creating a cartoon), C:218 Technical drawing, T:81 with pictures Drawing (industrial process)

Aluminium, A:294 Cotton (Spinning), Ci:387 Glass, G:193

Nylon (How nylon is made), N:369 Wire (How wire is made), W:277 Drawing, Technical

See Technical drawing Drayton, Michael (English poet), D:305 Dreadlock [hairstyle]

Rastafarians, R:141 Dreadnought [ship]

Battleship (The modern battleship),

Navy (Engineering advances), N:61 Submarine (Nuclear submarines),

Warship picture on, W:45; (The birth of the modern battleship) W:46

Dream, The Ipoem by Shevchenko Shevchenko, Taras, S:358

Dream, D:305

Nightmare, N:217 Sleep (What happens during sleep), S:484: (Sleep among animals)

Dream Days [book by Grahame] Grahame, Kenneth, G:285 Dream Girl, The lwork by Herbertl

Herbert, Victor, H:162

Dream Girl [play by Rice] Rice, Elmer, R:267

Dream Life of Balso Snell, The book by Westl

West, Nathanael, W:156

Dream of Gerontius, The Imusic by Elgar] Elgar, Sir Edward William, E:210

Dream of Oengus, The [story] Irish literature (Heroic tales, romances,

and sagas), I:381 Dream of Ossian, The painting by In-

gresl

Ingres, Jean Auguste Dominique, 1:233 Dream of the Red Chamber book by

Cao Xueginl Chinese literature (Drama and fiction),

C:470

Dream Play, A (play by Strindberg) Drama (Expressionism), D:299 Strindberg, August, So:356

Dreaming Australian Aborigines (Beliefs), A:837

Dreamtime Australian Aborigines (Beliefs), A:837

Dred, A Tale of the Great Dismal Swamp (book by Stowe)

Stowe, Harriet Beecher, So:341

Dred Scott Decision American Civil War (The conflict over slaveryl, A:305

Dredge Gold, G:232

Dredging, D:306 with picture Mining (Surface mining methods), M:491 with picture

Dreiser, Theodore (American writer), D:306

American literature (Naturalists), A:315 Naturalism (Naturalism In fiction), N:48 Novel (The United States), N:313

Drennan, William Ilrish poet) Emerald Isle, E:228

Dresden (Germany), D:306 Dresden china [porcelain], D:307 with

picture Dresden, D:307 with picture

Porcelain (German porcelain), P:689 with picture

Dreser, Heinrich [German scientist] Aspirin, A:668

Dress

See Clothing

Dress rehearsal

Opera (Rehearsing a production), 0:462

Television (Rehearsals), T:123 Theatre (Rehearsing), T:194

Dressage

Pony club branches, P:670

Dressing

Fur. F:490 with picture Meat processing, M:299

Dressmaking

Clothing picture on, Cl:108 Sewing, **S:285** Drew, Charles Richard [American doc-

tor], D:307 Dreyer, Carl [Danish director]

Denmark (Arts), D:112 Film Industry (The movies talk), F:101

Dreyfus, Alfred [French army officer], D:307

lews (The Zionist movement), J:115 Martin du Gard, Roger, M:232 Zionism (Movement to Palestine).

Z:400 Zola, Émile, Z:501

Dried fruit Date palm (Uses), D:41

Fig. F:74 Prune, P:821

Raisin, R:121 **Drift mine**

Coal (Underground mining), Ci:125 with diagram

Mining (Mining terms), M:494

Drift tube

Electricity picture on, E:166 Drifter (illustration by Kent)

Kent, Rockwell, K:222 with picture

Drifting Clouds [book by Futabatei] Japanese literature (The modern period), J:64

Drigg [England] Cumbria (Places to visit), Cl:496

Drigiam Namzha (dress code) Bhutan (History), B:268

Drill (seeder), D:307 Agriculture (The invention of new farm

equipment), A:173 with picture Invention (The Age of Reason), 1:318 Oats (Growing oats), O:377 with picture

Tuli, Jethro, T:437 Wheat (Planting), W:219 with picture

Drill [tool], D:308 Woodworking (Drilling), W:307 with

Drill pipe

Petroleum (Rotary drilling), P:343 **Drill stem testing**

Petroleum (Well testing), P:347

Drilling

Gas (Producing gas), G:51 Machine tool (Hole machining), M:16 Petroleum (Drilling an oil well), P:342 Woodworking, W:307

Drilling mud Petroleum (Rotary drilling), P:343

Driffship

Petroleum (Offshore drilling), P:344 Drinan, Adam [Scottish writer]

Scottish literature (After 1900), S:177

Drink See also Alcoholic beverage Space exploration (Eating and drinking), So:137

Horse, H:300 with picture

"Drink to Me Only With Thine Eves"

Esson, Louis, E:334

Droving, D:310 Victoria picture on, V:366 Drowned vailey [geography] Valley (Kinds of valleys), V:303 Drowning, D:310 Drug, D:311 with pictures See also list of Related Articles Adolescent (The use of drugs), A:55 AIDS (Medical care for HIV infection and AIDS), A:180 Biological clock (The biological clock in people), B:303 Brain (How drugs affect brain chemistry), B:516 Cocaine. Ci:139 Disease (Treating disease), D:197 Hallucinogen, H:24 Heart (Treatment), H:105: (Heart failure) H:110 Medicine (The medical revolution), M:317 Medicine (Treatment), M:307 Multiple sclerosis, M:694 Paracelsus, Philippus Aureolus, P:158 Pharmacology, P:358 Pharmacy, P:358 Plant (The importance of plants), P:542 Space exploration (Microgravity), So:135 Drug abuse, D:322 See also list of Related Articles Adolescent (The use of drugs), A:55 AIDS (How HIV is transmitted), A:179; (Education) A:181 Barbiturate, B:107 Cocaine, C:139 Depressant, D:123 Hashish, H:74 Health, H:96 Heroin, H:180 Methadone, M:382 Morphine, M:617 Narcotic, N:25 Olympic Games (The modern games), Opium, 0:476; (Opium addiction) 0:477 Prostitution, P:812 Tobacco, T:269 Drug addiction See Drug abuse Drug dependence Drug abuse, D:320 Drug (Effect on the body), D:315 Cancer, C:122 Chemotherapy, C:374 Mental illness, M:354 Psychiatry (Somatic therapy), P:826 Colombia (Colombia today), Ci:174

Mistletoe, M:515

Mythology, (Celtic), M:751 Wiltshire (Local customs and legends) W:263 Drum [fish], D:324 with picture Drum [musical Instrument], D:324 with pictures Bongo drums, B:447 with picture Conga drum, Ci:279 with picture [azz. 1:74 Music (Percussion instruments), M:729 with picture **Drum** brake Brake, B:521 with diagram Drum decorated with mask and hornbill Sculpture (Pacific Islands sculpture), S:204 with picture "Drum Taps" [poems by Whitman] Whitman, Walt (His work), W:239 Drumfish See Drum (fish) Drumlia Glacier (How glaciers shape the land), G:175 Hill, H:202 Drummond of Hawthornden, William (Scottish poet), D:325 Drummond, Stanley | Australian missionary), D:325 Drums at Dusk [book by Bontemps] Bontemps, Arna Wendell, B:452 Drums of Father Ned, The lplay by 0'-Casevi O'Casey, Sean, 0:384 **Drunkenness** Alcoholism, A:239 **Drunkenness of Noah, The painting** by Uccellol Uccello, Paolo, U:2 Drupe [fruit], D:325 Fruit (Simple fruits), F:476 with pictures Drupelet Blackberry, B:378 with picture Loganberry, L:360 with picture Raspberry, R:140 Drury Lane (London), D:325 Drury Lane Theatre [London] Drury Lane, D:326 Garrick, David, G:45 Druses (people), D:326 Lebanon (People), L:145; (War and ter rorism) L:148 Dry bean Bean (Kinds of bean), B:166 Dry bulb thermometer Hygrometer (The psychrometer), H:409 Dry bulk carrier [ship] Ship (Dry bulk carriers), S:379 Dry cell Battery (Kinds of batteries), B:154 Dry chemical extinguisher Fire extinguisher, F:135 Dry cleaning, D:326 Dry dock [shipping], D:326 with picture Ship (Launching and outfitting a ship), 5:384

Dry farming, D:327

Dry fruit Fruit picture on, F:475 Dry gangrene [disorder] Gangrene, G:30 Dry Ice, D:327 Carbon dioxide, C:188 Food, Frozen (Dry-Ice freezing), F:303 Rainmaking (Rainmaking methods), Refrigeration, R:184 Dry measure Weights and measures (table), W:139 Dry milling (agriculture) Maize (The dry-milling industry), M:74 Dry milling [industrial process] Leather picture on, L:142 Dry point Engraving, E:297 Dry-press process Brick, B:558 Dry rot Fungi (Common kinds of fungi), F:486 Rot. R:405 Dry season Barkly Tableland, B:111

Dry valley Antarctica (Land regions), A:438 with picture Dry wall Wallboard, W:24

Dry wood termite Termite (Kinds of termites), T:156 Dry, Sir Richard [Australian political leader), D:326 Drych y Prif Oesoedd [book by Evans]

Weish literature (Later literature), Dryden, John [English writer], D:327

Counter Reformation, Cl:392 Drama (European drama: 1660-1800), Dt294

Poetry (Neoclassical poetry), P:616 Shakespeare, William (Neoclassical criticism), S:325 Drying

Brick, B:558 Fishing Industry, F:193 Food preservation, F:307 Drying oil Linseed oil, L:297

Oil (Fixed oils), O:419 Drysdale, Sir Russell [Australian artist], D:328 with portrait

Australia, Art and architecture of picture on, A:784 DT's

Delirium tremens, D:98 Du ...

Personal names beginning Du are alphabetized as single words: Du Maurier appears after Duma Dual citizenship

Citizenship, Ci:16 **Dual instruction**

Aeroplane (Learning to fly), A:101 **Dual Monarchy**

Croatia (History), Cl:446 Hungary (Austria-Hungary), H:382 **Dual nationality**

Citizenship, Ci:16 **Dual presidency** [government] President, P:764

Dual rake

Rake (The side-delivery rake), R:126

Dualism [philosophy] Descartes, René (His philosophy),

Metaphysics (Mind and body), M:379

Dualistic theories

Solar system, So:27

Duarte, José Napoleón (Salvadoran politician), D:328 with portrait El Salvador (Recent developments), F-774

Duarte, Juan Pablo Dominican Republic (History), D:261

Du Barry, Comte Jean [French nobleman1

Du Barry, Madame, D:328

Du Barry, Madame (French public figure), D:328 with portrait

Du Barry, William Du Barry, Madame, D:328

Du Barry Was a Lady [music by Porter] Porter, Cole, P:696

Dubayy [U.A.E.] United Arab Emirates, U:39

Dubbing

See Film industry (Mixing the sound), F:90

Dubbo [Australia], D:328 Dubček, Alexander |Czech political

leader] Communism (In Eastern Europe),

CE244 Czech Republic (The 1960's), Ch521

Czechoslovakia (The 1960's), Ci:525 Czechoslovakia (The Velvet Revolution), Ci:526

Dubin's Lives [book by Malamud] Malamud, Bernard, M:77

Dublin icity, Ireland), D:329 with pictures and maps Ireland (Ancestry and population),

Dublin (county, Ireland), D:333 Arms picture on, A:587

Leinster, L:161

Dublin, University of, D:335 Ireland (Education), 1:356 with picture

Dubliners [book by Joyce] Irish literature (Modern Irish litera-

ture), I:383

Joyce, James, J:152 Dubois, Eugène [Dutch anatomist],

D:335 Homo Erectus, H:257

java man, J:71

Duboisias, D:336 Du Bois, W. E. B. [American historian], D:336 with portrait

American literature (Nonfiction writers), A:316

Dubos, René jules lFrench-American microbiologistl, D:336

Dubuffet, Jean [French artist], D:336 Painting (Postwar European painting), P:87 with picture

Ducat [coin], D:336

Duccio di Buoninsegna (Italian painter], D:336 Jesus Christ picture on, J:98

Pilate, Pontius picture on, P:498

Duchamp, Marcel [artist], D:336 Dadaism, D:2 with picture

Mobile, M:524 Painting (Dadaism), P:81; picture on

Sculpture (Assemblages), S:216 with picture

Du Châtelet, Marquise

Voltaire (Exile and return to France),

Duchenne muscular dystrophy Heredity (table), H:169 Muscular dystrophy, M:716

Duchess Duke, D:341

Duchess of Maifi, The play by Webster

Webster, John, W:128

Duchy of Cornwall Cornwall, Duchy of, C1:360

Duchy of Lancaster

Lancaster, Duchy of, L:42

Duck, D:337 with pictures Bird picture on, B:318

Poultry, P:726 Duck [fabric], D:340 Canvas, C:132

Duck Variations (play by Mamet)

Mamet, David, M:124 Duckbill

See Platypus

Ducking

Boxing picture on, B:497 Ducking stool (punishment), D:340

Duckling Duck (Duckling), D:337 with picture

Duckweed (plant), D:340

Ducommun, Élie

Nobel Prizes (table: Nobel Prizes for

Peace-1902), N:233 Ducouna [food]

Antigua and Barbuda (Clothing and food), A:461 **Duct** [anatomy]

Human body (The small intestine and large Intestine), H:355

Duct [engineering]

Ducted propeller, D:340 with picture Ducted propeller lengineering), D:340

with picture Ductile metal

Wire, W:277

Ductility lphysical propertyl, D:341 Alloy (Characteristics of alloy), A:277 Copper, Ci:341

Lead, L:124

Malleability, M:118 Ductus arteriosus

Heart (Birth defects), H:108

Dude ranch, D:341 Dudley (England), D:341

Dudley, Lord Guildford [husband of] Grey, Lady Jane, G:372

Dudley, Robert

F:448

Du Maurier, Daphne (English writer),

See Leicester, Earl of DECAR. D:113 with picture Due process of law Du Maurier, George Louis Palmella Freedom, F:433 Busson [English writer], D:344 Duel [combat], D:341 with picture Du Maurier, Sir Gerald [English writer], Du Fay, Charles François French sci-D:344 Sand, 5:69 entiet Dumbarton (Scotland), D:345 Electricity (Experiments with electric **Dumbarton Oaks** linternational confercharges and currents), E:171 encel. D:345 Dufourspitze [mountain] United Nations (The Dumbarton Oaks Switzerland (The Swiss Alps), So:496 Conference), U:173 Du Fresne, Marion [French explorer], Dumdum fever [disease] Dung beetle D:342 Kala-azar, K:180 Scarab, S:122 **Dumfries and Galloway Region | Scot-**Du Fu (Chinese poet), D:342 Chinese literature (Poetry), C:470 land], D:345 with picture Dufy, Raoul [French artist]. D:342. Arms picture on, A:589 Du Gard, Roger Martin Dumfriesshire (Scotland), D:346 See Martin du Gard, Roger Dumky imusic by Dvořák) Dugite [snake], D:342 Dvořák, Antonín, D:359 **Dunia Fantasi** Dugong [sea animal], D:342 with picture Dummy Baby (Crying), B:9 Canoeing,, C:127 Bridge (The play), B:567 Ship (Prehistoric and ancient Egyptian Magazine (Editing and assembling an ships), S:364 issue), M:41 Dunkers Duigan, John [Australian aviator], D:342 Puppet, P:865 Aeroplane (Other pioneer planes and Selection acts, S:243 **Dunkirk** filers), A:80 See Dunkerque Dumont D'Urville, Jules |French ex-Duino Elegies (poetry by Rilke) plorer), D:347 Rilke, Rainer Maria, R:277 **Dump rake** Duisburg [Germany], D:342 Rake, R:126 Dukas, Paul Abraham [French com-Dump truck poser], D:343 Construction equipment (Hoisting and Duke [title], D:343 material-handling machinery), Nobility (In Great Britain), N:236 Ci:310 Peer of the realm, P:243 Truck picture on, T:424 Duke Bluebeard's Castle lopera by Dumping Bartókl Tariff (Why tariffs are levied), T:44 Bartók, Béla, B:122 Dumpling [food] Duke-Elder, Sir William Stewart |Scot-Food (Interesting facts about food), tish ophthalmologisti, D:343 Dunquerque Duke of Edinburgh's Award, D:343 Dún Laoghaire [ireland], D:347 with See Dunkerque Duke, Charles M., Jr. (American astropicture nautl Leinster, L:162 gianl, D:350 Space exploration (Other moon land-Dunant, Jean Henri [Swiss banker]. ings), So:153 Dukenfield, William Claude Red Cross (Beginnings), R:171 Fields, W. C., F:71 Dunbar [ship], D:348 D:351 Dukes, Alan (Irish politician), D:343 Dunbar, Battles of, D:348 **Dukhobors** ireligious group! Dunbar, Paul Laurence American leader), D:351 Doukhobors, D:274 writerl Dukun [indonesian healer] American literature (Realist poetry), Bomoh, B:444 Dunton, John **Dulcey** [play by Kaufman] Dunbar, William [Scottish poet], D:348 Kaufman, George S., K:202 Duncan I lking of Scotlandl, D:348 Dulcimer (musical instrument), D:343 Macbeth, M:5 with picture Duncan, Isadora (American dancer), D:351 Piano (History), P:483 D:348 with picture Duodenal ulcer Duluth [Minnesota], D:343 Dancing (Modern dance), D:23 Dulwich (London), D:342 Duncan, Robert [American poetl, D:348 **Dulwich College** American literature (Poetry), A:319 Dulwich, D:343 Dunciad, The [poem by Pope] Gall bladder, G:15 Duma llegislative assemblyl, D:343 Pope, Alexander, P:680 Pancreas, P:127 Nicholas II, N:198 Dunciad Minor [poetry by Hope] Stomach, So:333 Dumas, Alexandre, fils [1824-1895] Hope, Alec Derwent, H:275 [French author], D:344 Dundalk [Ireland], D:348 leader] Dumas, Alexandre, père [1802-1870] Dundee [Scotland], D:349 with picture [French author]. D:344 Tayside Region, T:73 with pictures V:381 French literature (Romantic fiction). and map

Dune [geology], D:349

Denmark (The Western Dune Coast),

Desert (Desert land and climate), Data Earth (Erosion by wind), E:22 Netherlands, N:92 Dunedin [New Zealand], D:349 New Zealand, History of (Colonization) New Zealand (Religion), N:156 Dunfermline (Scotland), D:349 Dungannon (Northern Ireland), D:350 Dunham, Katherine American danced D:350 with picture Dunhill, Thomas Frederick (British composer]. D:349 Jakarta (Places of interest), I:13 Dunkerque [France], D:350 with picture World War II (The invasion of the Low Countries), W:383 with pictures Brethren, Church of the, B:554 Dunlap, William [American dramatist, Dunlop, John Boyd [Scottish veterinary surgeon), D:350 Tyre (History), T:491 Dunmore, Lord (British colonial official Indian wars (Lord Dunmore's War), **Dunmow Flitch** [custom] Essex (Customs), E:332 **Dunnottar Castle (Scotland)** Grampian Region picture on, G:290 Duns Scotus, John Imedieval theolo-Dunsany, Lord [British author], D:350 Irish literature (Drama), I:383 Dunstan, Donald (Australian politician) **Dunstan, Saint (English religious Dunster Castle** [England] Somerset (Places to visit), So:38 Gaelic games (History), G:6 Duntroon [Australia], D:351 **Duodecimal numerals** [mathematics] Stomach (Peptic ulcers), So:334 Ulcer, U:15 with diagram **Duodenum** [anatomy] Duong Van Minh (Vietnamese military Vietnam (South Vietnam and the wark Dupatta (clothing)

Pakistan (Rural life), P:93

Dupin, Amantine-Aurore-Lucile

Sand, George, S:70 Duplex system Telegraph (Faster and better service), T:103 Duplexer Radar, R:61 with diagram Dupilcate bridge Bridge (game), B:568 Duplicating machine Edison, Thomas Alvar (Inventor-

Industrialist of West Orange), E:81 Du Pont, Eleuthère Irénée (American

businessman), D:352

Du Pont, Thomas Coleman [American businessmanl, D:352

Du Pont Company

Titanium (Discovery and manufacture),

Du Pont de Nemours, Pierre Samuel [American philanthropist], D:351 Du Pré, lacqueline [British cellist],

Dura mater

Brain (How the brain is protected),

Membrane (Fibrous membranes). M:341

Durable goods

Industry (Other systems of classification), I:224

Manufacturing (Kinds of manufacturing), M:167

Durack, Elizabeth (Australian artist) Durack, D:352

Durack, Mary [Australian writer] Durack, D:352

Durack, Michael [Australian farmer], Durack, D352

Durack, Michael Patrick (Australian political leader!

Durack, D:352 Durack, Patrick (Australian farmer)

Durack, D:352 Duralumin [metal], D:352

Alloy (Alloys for strength and lightness), A:278

Durante, Jimmy (American entertainer), D:352 with portrait

Durban |South Africal, D:352 with pic-Natal, N:28 with picture

South Africa, So:55; (Population and ancestry)So:58

Dürer, Albrecht [German artist] Illustration (printed illustrations) with picture, 1:32

Dürer, Albrecht (German artist), D:353 with portrait Bookplate, B:461 with picture

Engraving (History), E:297 picture on E:1289

Four Horsemen of the Apocalypse, F:375 with picture Horse picture on, H:304

Illustration (Printed illustrations), E34 Painting (Still lifes), P:35; picture on P:33

Durga (Hindu goddess) Hinduism (Divinities), H:209 with pic-

ture Sculpture (As a record of history), S:186 with picture

Durham (English city), D:355

Durham (English county), D:353 with picture and map

Arms picture on, A:585

Durham Cathedral

Durham picture on, D:355

Durham University

United Kingdom, Educational system of the, U:98

Durham, Earl of, D:355 (British politicianl

Canada, History of (Lord Durham's report), C:100

Durian, D:355

Durian [fruit]

Burma (Food), B:637

Durkheim, Émile (French sociologist), D:356

Mythology (Mythology and society), M:765

Sociology (Development of social research), So:13

Durlabhayardhana [Karkotan king] Jammu and Kashmir (History), J:27

Durrell, Gerald (naturalist and writer), D-356

Durrell, Lawrence (British author). D:356

Dürrenmatt, Friedrich | Swiss dramatist]. D:356

Drama (Later German-language drama), D:300

German literature (Postwar German literature), G:110

Durum wheat

Grass (Wheat), G:303

Wheat (Species of wheat), W:218 with picture

D'Urville Island (island, Tasman Bay), D:356 D'Urville, Jules Dumont French ex-

Antarctica (Early exploration), A:442

Duryea, Charles E.

Duryea, D:356

Duryea, J. Frank Duryea, D:356

Dušan, Stefan (Serbian leader) Serbia (History), S:268

Duse, Eleonora (Italian actress), D:356 Dushanbe [city, Tajikistan], D:356

Tajikistan, T:13

Dusky flathead

Fish picture on, F:159

Düsseldorf [Germany], D:357

Dust. D:357

Dust Bowl, D:357 with picture and map Conservation (North America), Cl:301 Kansas (Economy), K:191

Water (Water shortages), W:74 Dust explosion, D:358

Dust jacket

Book (Caring for books), B:454

Dust storm, D:358

Dust picture on, D:357

Northern Territory picture on, N:283

Dusting

Bird (Feather care), B:343 Insecticide (Applying insecticides),

1:264

Dusty, Slim [Australian singer], D:358

Dusty [book by Davison]

Davison, Frank Dalby, D:49

Dutch Antilles

Netherlands Antilles, N:101

Durtch

Netherlands, N:88

Dutch doll

Doll (The 1800's), D:246

Dutch East India Company, D:358

Gilt Dragon, G:161 Indonesia, 1:197

Jakarta (History), J:15

Java (The arrival of the Dutch), J:70 Netherlands (Prosperity and power),

South Africa (Settlement by the Dutch), 50:78

Dutch East India Company Cape Province (History), C:137

Dutch East Indies

Indonesia (History), 1:192

Dutch elm disease (plant disease), D:358 with picture

Eim, E:218

Dutch explorers, D:358 **Dutch Guiana**

Suriname, So:440

Dutch language

Belgium (Languages), B:217

Netherlands (Language), N:90 Dutch oven [cooking ware], D:359

Dutch pins

Bowling (History), B:492

Dutch West India Company, D:359 Minuit, Peter, M:504

Netherlands (Prosperity and power), NIGG

New Netherland, N:119 New York City (Settlement), N:150 Patroon system, P:218

Dutch West Indies

Netherlands Antilles, N:101

Dutch windmill Windmill, W:270

Dutchman [play by Baraka] Baraka, Amiri, B:101

Du Toit, Alexander Logie, D:359

Dutra, Eurico Gaspan [president of

Brazil (Return to constitutional government), B:545

Dutt, Michael Madhusan (Indian

India, Literature of (The birth of nation-

Duty [economics]

Customs, Ci:507 Smuggling, S:502

alism), 1:128

Duval, Claude (French highwayman)

Highwayman, H:199

Duvalier, François Haitlan political leader], D:359

Haiti (History), H:18

Duvalier, Jean-Claude [Haitian political

240 Duvalier, François leaderl Duvalier, François, D:359 Haiti (History), H:18 Duyfken (ship) lansz, Willem, 1:29 Weipa, W:142 Dvina River, D:359 Latvia (Land and climate), L:104 Dvořak, Antonín [Czech composer]. Czech Republic (Arts), Cl:518 Dwarf [biology], D:360 with picture Bonsai, B:452 with picture Tree picture on, T:372 Dwarf birch Birch, B:314 Dwarf coral Coral picture on, Cl:349 **Dwarf mistletoe** Mistletoe, M:515 Dwarf nova Nova, N:310 **Dwarf star** Astronomy (Stars), A:690 Star (The size of stars), So:281 Dwarka itemplej Gujarat (Places to visit), G:422 Dwight D. Elsenhower [ship] Aircraft carrier (The modern carrier fleet), A:205 Dwight, John [English potter], D:361 Dwyfor (Wales), D:361 Dy [symbol] Dysprosium, D:366 Dyaks (people), D:361 with picture Borneo (The people and their work). Indonesia (Shelter), 1:185 with picture Dve. D:361 See also list of Related Articles Batik, B:152 with picture Colour (Mixing colorants), Cl:194 Fur (Dyeing), F:491 Henna, H:151 Indigo, 1:179 Ink, 1:234 Lake, L:16 Leather, L:142 Leathercraft (Colouring), L:143 Mordant, M:604 Pencil (Coloured pencil), P:254 Pigment, P:497 Saffron, 5:17

Textile (Finishing the fabric), T:173 Tie dyeing, T:243 Turmeric, T:469 with picture Wool (Making fabric), W:312

Fokine, Michel, F:285 Pavlova, Anna, P:221 Dyke Irrigation (Surface irrigation), 1:407 Netherlands, N:88 Dylan, Bob [American musician], D:364

Dyer, Bob (Australian entertainer), D:362

Dyfed [Wales], D:362 with picture

Arms picture on, A:589

"Dying Swan, The" (ballet)

Dye laser

Laser, L:73

with portrait Baez, Joan, B:25 Rock music (Expanding styles and sounds), R:312 **Dymaxion house**

Fuller, Buckminster, F:482 Dynamic metamorphism Metamorphism, M:377

Dynamic microphone

Microphone (Ribbon microphones). M441 Dynamic pump

Pump, P:853 with diagram Dynamics [art] Sculpture (Movement), S:191 with picture

Dynamics [music] Music (Indicating expression), M:733 Dynamics [physics], D:365 Mechanics, M:303

Physics (Mechanics), P:473 Dynamics of Faith (book by Tillich) Tillich, Paul, T:248

Dynamics, Group Group dynamics, G:385 Dynamite, D:365

Nitroalycerin, N:223 Nobel, Alfred Bernhard, N:225

Dynamo Electric generator, E:145

Dynamo [play by O'Neill] O'Neill, Eugene Gladstone, 0:452 Dynamometer

Horsepower, H:310 Dynamotor [electric machine], D:365

Dynasts, The [play by Hardy] Hardy, Thomas, H:59

Arabs (The rise and spread of Islam).

Babylon (The Old Babylonian Empire), Egypt, Ancient (History), E:128

Royal families, R:418 Dyne (unit of force), D:365

Work, W:315

Dyne-centimetre [unit of force] Work. W:315 Du You [Chinese scholar]

Encyclopedia (History), E:240 Dyrham Park (England)

Avon (Places to visit), A:892 Dysentery [disease], D:366

Phillip, Arthur (The colony's early years), P:417 Dysgraphia

Learning disabilities (Types), L:139 Dyslexia, D:366

Aphasia, A:471 Learning disabilities (Types), L:139 Reading (Reading problems), R:156

Dyson, Edward [Australian writer] Australia, Literature of (Other poetry), A:831

Dyson, Sir George (British composer), D:366 Dyspepsia, D:366

Indigestion, 1:179 Dysphasia

Learning disabilities (Types), L:139 Dyspraxia Learning disabilities (Types), L:139

Dysprosium [element], D:366 Dystrophy, Muscular

See Muscular dystrophy Dzerzhinskava [hill] Belarus (Land and climate), B:209

E [letter], E:1 with pictures E=mc2 [physics], E:2

Einstein, Albert (Relativity), E:130 Nuclear energy (The first artificially created fission reaction), N:329 Physics (Einstein and relativity), P:477 Relativity (Special theories of relativ-

ityl, R:191 E Pluribus Unum, E:2 Eagle, E:2 with pictures Bird pictures on, B:327, B:333

Harpy eagle, H:66 with picture Wedge-tailed eagle, W:130 **Eagle of Meaux**

Bossuet, Jacques Bénigne, B:476 Eagle owi

Owl (Kinds of owls), O:529 Eagle liunar module)

Space exploration (Landing on the moon), So:149 with pictures

Eaglet Eagle, E:4

Eakins, Thomas (American painter), E:5 with picture

Realism (In painting), R:160

Ealing (England), E:6 Eames, Charles [American designer],

E:6 Furniture (Recent developments),

Eames, Robert Henry Alexander larchbishop of Armaghl, E:6

Fames chair

Eames, Charles, E:6 Furniture (Recent developments),

F:507 with picture Ear janatomyl, E:7 with pictures See also list of Related Articles

Bird (Hearing), B:352 Dog (Body structure), D:223 Fish, F:171

Insect diagram on, 1:248 Reproduction, Human (The eyes and

ears), R:229 Reptile (Sense organs), R:232

Ear [botany]

Maize (Appearance), M:71 Ear shell (sea animal)

Abalone, A:3 with picture Ear trumpet

Hearing aid (History), H:97 with plcfure Eardrum

Deafness (Types of hearing disorders)

D:55	Eratosthenes, E:317
(The outer ear), E:7; (The middle	Fossil (Recording changes in the
ear) E7 with diagrams; diagram	earth), F:370
on E:10	Geology, G:91
Owner Oct 16	Geomorphology, G:99
rhart, Amelia [American aviator],	Heat, H:111
CAA with portrait	Magnetism, M:54; (The magnetism
Aeroplane (Fliers of the golden age),	the earth) M:57
A:81	World, W:316 with maps
of little). E:14	Earth lelectricityl, E:15
Nobility (In Great Britain), N:236	Earth dam
Peer of the realm, P:243	Dam (Kinds of dams), D:12
Thane, T:186	Earth-fill dam
ri Marshal [title], E:14	Dam (Kinds of dams), D:12
rl, George, E:14	Earth in the Balance: Ecology and
rie, Augustus (British artisti	Human Spirit [book by Gore]
Australia, Art and architecture of (Co-	Gore, Al, G:258
Ionial painters), A:782	Earth lodge
rlobe	Indian, American (Shelter), 1:139; (Ir
Ear (The outer ear), E:7	ans of the Plains) 1:154
arly Bird (communications satellite)	Earth-moving machinery
Satellites, Artificial (Important satel-	Construction equipment, Ci:310
lites), S:96	Earth observation satellite
Telephone (History), T:109	Satellite, Artificial, S:97
arly childhood education, E:14	Earth science, E:32
child, C:403	See also list of Related Articles
Education, E:83	Earth Spirit [play by Wedekind]
Intelligence (Controversy over intelli-	Wedekind, Frank, W:129
gence), 1:277	Earthenware
Kindergarten, K:251	Porcelain, P:687
Montessori method, M:576	Pottery, P:722 with picture
Nursery school, N:354	Earthquake, E:33 with pictures and
School, S:128	man
arly Christian architecture	See also list of Related Articles
Architecture, A:523 with picture	Alaska, A:227
arly Christian cathedral	Andes Mountains, A:355
Cathedral (Architectural history), C:263	Armenia (History), A:580
arly civilization	California (History), C:39
Africa, A:148	Disaster (Natural disasters), D:187;
Ancient civilization, A:352	(table) D:187
Europe (History), E:384	Earth (The shaping of the continent
Mathematics, M:256	E:25 with map
Physics, P:474	Flood (Seacoast floods), F:229

nenia (History), A:580 ifornia (History), C:39 aster (Natural disasters), D:187; (table) D:187 th (The shaping of the continents), E:25 with map Flood (Seacoast floods), F:229 Geophysics, G:99 Iran (Iran today), I:340 Japan (Rise of militarism), J:58 Karnataka (History), K:198 Maharashtra (Recent developments), Mexico (Recent developments), M:422 with picture New Zealand, N:161 Plate tectonics (Divergent plate boundarles), P:584

Richter magnitude, R:271 Romania (Recent developments), P/358

Le Guin, Ursula, L:156

Earthshine [astronomy]

Safety (During an earthquake), S:15 San Francisco (History), S:65 Science (Geology), S:140 Seismology, S:241 Tokyo (Earthquake and reconstruction), T:287 West Indies (Land), W:169 Yugoslavia (The interior highlands), Y:472 Earthsea trilogy book by Le Guinl

Moon (The phases of the moon), M:591 **Farthworks** [art] Sculpture (Environmental sculpture), S:218 with pictures Earthworm, E:39 Animal (Adaptations for moving metism, M:54; (The magnetism of about), A:396; (Regeneration) Brain (In invertebrates), B:518 Egg (Other kinds of eggs), E:97 Heart (Animals without a backbone), H:113 with diagram Respiration (External respiration in animais without lungs), R:241 in the Balance: Ecology and the Worm. W:410 Earwax Ear (Parts of the ear), E:7 Earwig, E:39 an, American (Shelter), I:139; (Indi-Beetle (Rove beetle), B:198 Insect (table), 1:261 Easement [law], E:39 Conveyancing, Ci:318 Easington [England], E:40 **East African Community** Kenya (Building the new nation), K:230 Tanzania (The united republic), T:36 East Anglia (England), E:40 with map Heptarchy, H:158 East Asia Asia (Way of life in East Asia), A:638 with pictures and map **Fast Australian Current** Pacific Ocean (Currents and tides), P:15 East Bengal Bangladesh (British India), B:88

East Berlin Berlin, B:247 Berlin Wall, B:255

Germany, G:112 East Cambridgeshire [England], E:40 **East-Central Hills** Denmark, D:114

East China Sea Pacific Ocean (Coastline and Islands),

P:14 "East Coker" [poem by Eliot]

Eliot, T. S. (His works), E:211 East Devon (England), E:40

East Dorset llocal government district, England), E:40

East Falkland lisland, Atlantic Falkland Islands, F:14 with map **East Germany**

Berlin, **B:247** Berlin Wall, B:255 Communism (In Eastern Europe),

Ci:244 Germany, G:112

East Greenland Current Arctic Ocean (Currents), A:548

East Ham Newham, N:179 East Hampshire (England), E:40

East Hertfordshire [England], E:40 East India Company, E:40 Arunachai Pradesh (History), A:617 Assam (History), A:665

Jeffreys, Sir Harold, J:81 Earth, E:16 with pictures See also list of Related Articles Astronomy (The solar system), A:689

Earth: its Origin, History, and Physi-

cal Constitution, The book by jef-

Transportation (History), T:349 with

Prehistoric people (The first human

Earp, Wyatt [American frontiersman],

Headphones, H:94 with picture

beings), P:751; pictures on P:754

civilization), W:332

World, History of the (Early centres of

pictures

Early human being

Early realism (drama)

Burbank, Luther, B:648

E15 with portrait

Drama, D:298

Earned income

Income, I:52

Earring (jewellery)

Jewellery, J:108

Earphones

Early Rose potato

Bangladesh, B:88 Bombay (History), B:441 Clive, Robert,, C:85 England (The reign of Elizabeth), E:278 India, History of (East India Companies), 1:112 Joint-stock company, J:137 Maharashtra (British rule), M:67 West Bengal (European traders), W:161 East Indiaman [ship] Ship, \$:369 with picture East Indian Archipelago (islands, Malay Archipelago, M:81 East Indian lotus Flower picture on, F:260 Lotus, L:397 East Indies, E:41 See also Southeast Asia East lerusalem Israel (City life), I:432 Jerusalem, 1:89 with picture East Kilbride (Scotland), E:41 East Lindsey [England], E:41 East London (South Africal, E:41 East Lothian (Scotland), E:41 East Northamptonshire [England], E:41 East of Eden book by Steinbeckl Steinbeck, John, So:312 East of Eden [film] Dean, James, D:58 Kazan, Elia, K:207 East of the Sun and West of the Moon [work by d'Aulaire] D'Aulaire, D:43 **East Pacific Rise** Ocean (Deep-sea peaks, valleys, and plains), 0:398 Pacific Ocean (The ocean floor), P:14 East Pakistan See Bangladesh **East Roman Empire** Byzantine Empire, B:699 Rome, Ancient (Decline and fall), R:382; map on R:383 East Siberian Uplands Russia, R:478 East Staffordshire [England], E:41 **East Sussex** Sussex, So:447 East-West relations Cold War, Ci:160 Germany, G:139 Union of Soviet Socialist Republics, 11:28

Buck, Pearl S., B:608

Easter, E:41 with pictures

Nicene Councils, N:198

Decorative arts picture on, D:76

Easter (Eggs and rabbits), E:44; (Easter

East, The

Easter egg

See Far East Eastbourne (England), E:41

East Yorkshire [England], E:41

East Wind: West Wind (book by Buck) See also list of Related Articles Greece (Religion), G:336 with picture Eastern lowland gorilla

eggs) E:44 with picture Fabergé, Peter Carl, F:2 with picture Easter Island (South Pacific Ocean), E:44 with picture Pacific Islands (Polynesia), P:3 Easter lily, E:46 Easter, E:44 Easter Monday [painting by De Kooningl De Kooning, Willem picture on, D:90 **Easter Rebellion** Ireland, History of, L376 with picture Irish literature (The Irish literary revival). I:383 Sinn Féin, S:454 Easter rising [Dublin, 1916] See Easter Rebellion Easter Sunday Easter, E:43 Easterly wave Hurricane, H:388 Eastern Basins and Ranges Queensland, Q:19 Fastern bloc Cold War, Cl:160 Eastern Cape [South Africa], E:45 with picture South Africa, So:55 Eastern Catholic Churches [religion], F-47 Eastern coral snake Coral snake, Ci:349 Eastern cottonwood Cottonwood, Cl:390 **Eastern Desert** Egypt, **E:112** Eastern diamondback rattlesnake Rattlesnake, R:145 Eastern Europe Agriculture, A:170 Communism, Ci:244 Disarmament (History), D:186 Europe, E:359 (Country life) E:365; (Education) E:367 Germany (East Germany), G:138 Helsinki Accords, H:147 Library, L:225 Warsaw Pact, W:42 World War I, W:369 with map **Eastern Forelands** Austria, A:862 **Eastern Front** World War I (The Eastern Front). W:366 Eastern hemlock Hemlock [tree], H:144 Eastern Highlands Australia, A:761 with picture China. C:450 Nigeria, N:211 South America, So:92 **Eastern Hills** New Zealand, N:158 **Eastern Lowland** Ecuador, E:70

Gorilla (The gorilla's home), G:259

Eastern Lowlands

China, C:450

Eastern Mountain System Burma, B:659 Eastern Orthodox cathedrals Cathedral (Eastern Orthodox), C:262 with diagram Eastern Orthodox Churches Ireligious groupl, E:47 with picture Belarus (Religion), B:209 Bulgaria (Religion), B:636 Cathedral (Eastern Orthodox), C:262 Christianity (The split between East and West), C:485 Greece (Religion), G:336 Macedonia (People), M:8 Moldova (Ethnic groups and language), M:528 Monasticism (Christian monasticism). M:544 Patriarch, P:216 Priest, P:776 Religious life, R:208 Roman Catholic Church (Split with the East), R:340 World, History of the (Byzantine Empire), W:344 Eastern Plains Colombia, Ch:172 with picture Eastern red cedar Juniper, J:169 Eastern Region Tasmania, T:56 Eastern rosella Rosella, R:400 with picture Eastern Slavs (people) Slavs, 5:483 Eastern spinebill Bird picture on, B:333 Eastern Transvaal (South Africal, E:48 with picture and map) South Africa, So:55 Eastern Turkestan Turkestan (Chinese Turkestan), T:453 Eastern whipbird Whipbird, W:228 Eastern Zhou period [Chinese history] Zhou dynasty, Z:492 Eastham [England] Merseyside (Places to visit), M:368 Eastleigh (England), E:50 Eastman, George [American business: manl, E:50 Communication (In the late 1800's), Ci:232 Photography (The beginning of modern photography), P:461 with plo Eastwood [Scotland], E:50 Eastwood, Clint |American film actor E:50 with portrait Film industry (Best achievement in directing), F:96 **EasyLink** Western Union Telegraph Company, W:193 Eaton, John H. [American senator]

O'Neale, Peggy, 0:451

O'Neale, Peggy, 0:451

Eaton, Peggy

Saudi Arabia, S:108

Eau de Cologne (perfume)

Cologne, Cl:167

Eau d'or (perfume)

Lily of the valley, L:277

Eavesdropping

Telephone tapping, T:111

Ebb current

Tide (High tides and low tides), T:242

Ebb Tide, The [book by Stevenson]

Stevenson, Robert Louis (Stevenson's

writings), So:322

Ebeler, Francis [Maltese writer], E:50

Fhla lancient kingdom), E:50

Fhony and Ivory book by Powysl

Powys (Llewelyn), P:733

Ebony, E:50 with pictures Eboracum

York, Y:456

Ebro Basin

Spain, So:176

Ebro River

Spain (The Ebro Basin), So:176

Eccles, Sir John (Australian scientist),

Ecclesiastes [Old Testament], E:51

Bible, B:270

Old Testament, N:428

Ecclesiastical court, E:51

Ecclesiastical History of the English

Nation [book by Bede]

Bede. B:181

Caedmon, C:12

History (Medieval times), H:225

Jutes, J:175

Ecclesiastical History work by

Euseblus) History (Medieval times), H:225

Ecclesiastical Ordinances

Reformation (John Calvin), R:182

Ecclesiastical treaty

Treaty, T:370

Eccrine gland

Skin (Glands), S:470

Ecdysis

Insect (The bodies of insects), 1:248

Ecevit, Bülent [Turkish political leader] Turkey (Recent developments), T:465

See Electrocardiograph

Echandi, Mario [Costa Rican political leader1

Costa Rica (Revolutions and reforms), Cl:378

Echldna, E:51 with picture Animal picture on, A:387

Australia (Native animals), A:768 with

Echinoderm (zoology), E:52

Animal (A classification of the animal kingdom), A:414

Echinodermata

Animal (A classification of the animal kingdom), A:415 Invertebrate, 1:322

Echinus

Column (The Greek orders), Cl:213

Echo (Greek mythology), E:52

Narcissus, N:24

Echo |communications satellite|

Satellite, Artificial (Important satellites). S:96; (History) S:98

Telephone (History), T:109

Echo (sound), E:52 with diagrams

Radar, R:54

Rain (Measuring rainfall), R:115

Sound (Reflection), So:50

Echo ranging

Fathometer, F:35

Sonar, So:39

Echocardiography

Heart (Valvular disease), H:108

Medicine (Other technological ad-

vances), M:319

Echoes of Time and the River imusic by Crumbl

Crumb, George, Cl:462

Echolocation

Bat (How bats navigate), B:147

Bird (Hearing), B:352

Dolphin (The bodies of dolphins),

Far (The ears of animals), E:13

Mammal (Senses), M:129

Sonar, So:39

Whale (Senses), W:209

Eck, Johann [German theologian], E:53 Luther, Martin (Reformation leader),

1-419

Eckhart, Johannes (German theolo-

gianl, E:53

Eclampsia

Toxaemia of pregnancy, T:320

Eclecticism (psychology)

Psychology (Modern psychology),

Eclipse [astronomy], E:53 with pictures

Astronomy picture on, A:685

Baily's beads, B:33

Corona, Cl:360 with picture

Moon, M:592

Penumbra, P:268 with diagram Sun (Modern solar study), So:421

Eclipsing binary (astronomy)

Algol, A:267

Eclipse, E:53

Star, So:286 with diagram

Ecliptic

Astronomy (Astronomy terms), A:688; (Locating objects in the sky) A:692

Eclogues [poems by Virgil]

Theocritus, T:213

Virgil (His works), V:401

Ecofact

Archaeology (What archaeologists study), A:500

École des Beaux-Arts, E:55

Ecological anthropology

Anthropology (Cultural anthropology), A:452

Ecological diversity

Conservation (To maintain the quality of life), Ci:293

Ecological efficiency

Ecology (Energy flow), E:57

Ecological niche (ecology)

Ecology (The role of a species), £:56 Elton, Charles Sutherland, E:225

Ecological succession

Ecology (Changes in communities),

Forest (Forest succession), F:351

Ecology, Human

Sociology (Population studies), So:11

Ecology, E:55 with pictures

See also list of Related Articles

Biology, B:304

Conservation, Ci:293

Elton, Charles Sutherland, E:225

Environment, E:298

Habitat, H:3

Literature for children, L:326

Nature Conservancy Council, N:49

Science (Other branches), S:141

Soleri, Paolo, So:29

Zoology (What zoologists study), 7:506

Fconometrics, E:59

Fronomics, E:59: (Research today) E:65

Frisch, Ragnar, F:462

Tinbergen, Jan, T:260

Economic and Social Council

United Nations (UN) (The six major UN organs), U:162; (Other main or-

gans) U:168

Economic anthropology Anthropology (Social anthropology),

A:452

Economic Consequences of the Peace, The [book by Keynes]

Keynes, John Maynard, K:240

Economic Cooperation Administra-

tion (ECA)

Marshall Plan, M:227

Economic determinism (theory), E:59 See also Marx, Karl

Economic development

Democracy (Economic development and agreement on fundamentals),

Economic entomology

D:103

Entomology (What entomologists

study), E:298 Economic freedom

Freedom, F:434; (Limits on economic

freedom) F:434 Economic geography

Geography (Divisions of geography), G:88

Economic geology

Geology (table), G:92 **Economic growth**

Economics, E:61 Economic interpretation of the Con-

stitution (book by Beard)

Beard, Charles and Mary, B:172

Economic liberalism

Liberalism (Early liberalism), L:204 Smith, Adam, 5:498

Economic miracle

Germany (Economy), G:127; (West Germany) G:138

Economic reform

Progressive movement, P:796

Economic rent Rent. R:222

Economic sanction [political science]

League of Nations (Why the League

Edgeworth, Maria [Irish writer], E76 Ecumenical council failed), L:135 Irish literature (Prose and poetry). Constantine the Great, Ci:307 **Economic stability** 1:382 Vatican Council I, V:318 Economics, E:63 Edible crab Vatican Council II, V:318 **Economically active population** Crab, Ci:412 with pictures Labour force, L:2 **Ecumenical movement** Christianity (Christianity today), C:486 **Edible-nest swiftlet** Economics, E:59 with pictures Swift, So:480 Protestantism (The unity movement), See also list of Related Articles Edict [law] Industry (Under different economic Law (Ancient Roman law), L:113 Religion (Religion today), R:205 systems), I:222; (Industrial organi-Roman Catholic Church (The church Praetor, P:735 zation) I:224 **Edict of Nantes** Inflation, I:229 today), R:344 World Council of Churches, W:360 See Nantes, Edict of Input-output analysis, 1:238 Edinburgh (Scotland), E:76 with pictures Ecumenical patriarch [religious leader] Labour Party, L:3 Latin America (Trade relations and ec-Eastern Orthodox Churches (Organiza-See also list of Related Articles Scotland, S:156 with pictures onomic developments), L:92 tion), E:48 Patriarch, P:216 Edinburgh, Duke of National income, N:38 Philip, Prince, P:367 Philippines, P:388 Eczema (disorder), E:74 Edinburgh, Treaty of, E:80 Science, S:141 Allergy, A:273 Tourism, T:312 Evening primrose, E:404 Edinburgh (History), E:79 Skin (Inflammation), S:470 Edinburgh, University of, E:80 **Economy** Car (Economic impact), C:152 Insulation (Insulation for heat flow Edinburgh (Universities, colleges, and City, Ci:25, Ci:29, Ci:32, Ci:34 schools), E:78 control), 1:269 Edda (Icelandic literature), E:74 Colonial life in America, Ci:184 **Edinburgh Castle** Brunhild, B:601 Colonialism (Economic policies), Edinburgh, E:76 picture on E:80 Cl:187 Lothian Region (Places to visit), L:396 Nibelungenlied (The background), **Edinburgh International Festival** Communism (The centrally planned economy), Ci:240 Edinburgh (Cultural events), E:79 Mythology (Teutonic mythology), Economics, E:59 M:761 Scotland (The arts), S:162 Great Depression, G:316 Scandinavian literature (Beginnings), **Edinburgh Military Tattoo** Industry (Under different economic Edinburgh (Cultural events), E:77 systems), I:222 Eddington, Sir Arthur Stanley (British Edirne (ancient city), E:80 Interest (Economic activity), 1:280 astronomerl, E:74 Edison, Mary [wife of] Edison, Thomas Alva (Family and Science (The social sciences), S:141 Eddo Ecosystem Taro. T:46 friends), E:82 Balance of nature (Maintaining the bai-Eddy current lelectromagnetisml Edison, Mina [wife of] ance), B:34 Foucault, Jean Bernard Léon, F:374 Edison, Thomas Alva (Family and Biodiversity, B:299 Eddy current [fluid mechanics] friends), E:82 Conservation (Kinds of conservation). Edison, Thomas Alva [American inven-Aerodynamics (Principles of aerodynamics), A:71 tor), E:80 with pictures Ecology, E:55; (Changes In ecosys-Earth (The birth of the solar system), See also list of Related Articles tems) E:58 Communication (in the late 1800's), F:23 Environmental pollution, E:300 Gulf Stream (The path of the Gulf Ci:232 with picture Eucalypt forests, E:346 Stream), G:425 Electric light (History), E:151 Forest, F:344 Streamlining, So:351 with diagram Fire (Light), F:127 Ecstasy [drug] Invention (The late 1800's), I:318; por-Eddy, Asa G. Drug abuse, D:321 Eddy, Mary Baker, E:75 trait on I:316 **Ectoderm** Eddy, Mary Baker | American religious Lamp (Electric lamps), L:37 Coelom. Ci:151 leaderl, E:75 Record player (History), R:166 Embryo (Human development), E:227 Research (Applied research), R:236 Edelweiss, E:75 with picture Telegraph (Faster and better service), Ectopic pregnancy [biology] Eden (England), E:75 Fallopian tube, F:16 Eden [Old Testament], E:75 T:103 Ectoplasm (biology), E:66 Eden, Anthony [British statesman], E:75 Editor See also Cell (The cytoplasm) Film industry (Postproduction), F:89 with portrait Ectoplasm (spiritualism), E:66 Macmillan, Harold, M:21 with picture Ectothermic animal United Kingdom, History of the (Eco-Journalism, J:149 Cold-blooded animal. Ci:159 nomic recovery-and collapse), Magazine (How magazines are pro-Dinosaur (How dinosaurs lived). U:153 duced), M:41 Newspaper (The editorial department) D:180; (Reproduction and growth) Edentate (zoology), E:75 Anteater, A:447 with picture N:181 Ecuador, E:67 with pictures and maps Publishing (Editing the manuscript), Mammal (table), M:137 with picture See also list of Related Articles Ederle, Gertrude Caroline lAmerican P:844 Aviation (Aircraft nationality marks), swimmerl, E:76 with portrait Editorial (journalism), E:82 A:881 English Channel, E:280 **Editorial cartoon** Bolívar, Simón (His victories), B:424 Edge of Tomorrow, The book by Cartoon, C:217 El Niño, E:219 Dooleyl Editorial department Flag picture on, F:203 Dooley, Thomas Anthony, III, D:267 Newspaper, N:181

Edgehill, Battle of

Civil War, English (The first phase,

1642-1646), Ci:45

Edmonton [Alberta], E:82

Edmund Wright Building
Australia, art and architecture of pic-

Latin America (Border disputes), L:92

Sucre, Antonio José de, So:380

Quito, Q:31 with picture

ture on, A:787

Edo

Tokyo (Early development), T:287

Edom |Old Testament|, E:82

Education and Freedom book by Rickoverl

Rickover, Hyman George, R:272

Education, E:83 with pictures

See also list of Related Articles

Adolescent (Attitudes toward schooling), A:54

AIDS (Social issues), A:181

Rlindness, B:390

Colonial life in America (The school), Cl:183

Communication (At school), Ci:228 with picture

Computer (Other uses), Ci:255 with picture

Deafness (Education and training), D:57

Democracy (Education and democracy), D:103

Early childhood education, E:14 with picture

Handicapped (Special education), H:46 with picture

Hornbook, H:282

Humanism, H:364

Kindergarten, K:251

Learning disabilities, L:139

Leaving Certificate examination, L:144 Ubrary (School libraries), L:220 with

Maoris (Maoris today), M:179; (One New Zealand culture or two?)

McGuffey, William Holmes, M:289 with picture

Medicine (Medical education), M:310

Montessori, Maria, M:576 Montessori method, M:576

Museum (Special services), M:719

New mathematics, N:117

Nursery school, N:354 with pictures

Oxford University, O:533 Pedagogy, P:241

Pestalozzi, Johann Heinrich, P:318

Physical education, P:469 with pic-

Public opinion (Educational agencies),

Reading (The teaching of reading), R:152

Sex education, S:292

Special education, So:206

Suzuki method, So:452

Testing, T:163

Thorndike, Edward Lee, T:226 Women's movement (The beginnings

of a women's movement), W:295

Education in a Changing World book by Wolfenden]

Wolfenden, Lord, W:286

Education of Henry Adams, The lbook by Adams!

American literature (Nonfiction writers), A:316

Education of the Human Race work

by Lessing)

Lessing, Gotthold Ephraim, L:187

Education of Young Donald, The (book by Home)

Horne, Donald, H:282

Educational film

Communication (In schools), Cl:228

Educational psychology, E:93

Education, E:83

Herbart, Johann Friedrich, H:161 Psychology (Major fields of psychol-

ogy), P:828

Eduskunta (government)

Finland, F:114

Edward [Black Prince], E:93 with portrait

Crécy, Battle of, Ch419

Earl, E:14

Poitiers, Battle of, P:622

Edward I [king of England], E:93 with portrait

Bruce, Robert, B:596

Coronation (The British Coronation), Ci:362

Eleanor Cross. E:137

England (The beginnings of Parliament), E:276

Plantagenet, P:573

Prince of Wales, P:779

Scotland, History of (The War for Independence), S:169

Edward II (king of England), E:93

England (The beginnings of Parliament), E:276

Plantagenet, P:573

Scotland, History of (The War for Independence), S:169

Edward II [play by Marlowe] Marlowe, Christopher, M:215

Edward III (king of England), E:94

Bruce, Robert, B:596

Crécy, Battle of, Ci:419

England (The Hundred Years' War),

France (A period of wars), F:413 Garter, Order of the, G:46

Plantagenet, P:573

Salic law, S:50

Scotland, History of (The War for Independence), \$:169

Edward IV [king of England], E:94

England (The Wars of the Roses), E:276

Warbeck, Perkin, W:37

Wars of the Roses, W:41

Edward IV [play by Heywood] Heywood, Thomas, H:189

Edward V lking of Englandl, E:94 with

portrait

Princes in the Tower, P:779

Richard III, R:268

Tower of London, T:315

Edward VI [king of England], E:94 Cranmer, Thomas, Ci:418

England (The English Reformation),

E:277

Grey, Lady Jane, G:372

Reformation (In England), R:182

Tudor, House of, T:436 Edward VII [king of England], E:94 with portrait

Windsor, W:271

Edward VIII [king of England], E:94

Royal Family of the United Kingdom (History), R:425

United Kingdom, History of the ("Peace in our time"). U:151

Edward, Duke of Kent

Royal Family of the United Kingdom (The outer circle), R:425

Edward, Lake See Lake Edward

Edward, Prince

Royal Family of the United Kingdom, R:423

Edward the Confessor | Anglo-Saxon king). E:95 with portrait

Edward I. E:93

England (The Norman Conquest), E:275

London (The Middle Ages), L:373

Norman Conquest, N:243

Westminster Abbey, W:195 William I, the Conqueror, W:255

Edward the Elder [English king]

Edward I, E:93 Edward the Martyr (English king) Edward I, E:93

Edwardian architecture

Australia, art and architecture of, A:786

Edwards Plateau

Texas (Land), T:167

Edwards, Gareth (Welsh rugby player),

Edwards, Hilton IIrish dramatisti, E:95 Edwards, Jonathan (American theologianl

American literature (Religious writings), A:310

Missionary (History), M:509 Edwards, Sir James Bevan (British administrator), E:95

Edwards, Sir Owen Morgan (Welsh writerl, E:95

Edwin

Kings and queens of Britain and Ireland (Northumbria), K:260

EEG

See Electroencephalograph

Eel, E:95 with picture Fish pictures on, F:173

Eelgrass, E:96

Eelworm, E:96

Eendracht (ship)

Hartog, Dirk, H:71 Effective horsepower

Horsepower, H:310

Effector

Nervous system (How the nervous system works), N:81

Effi Briest (book by Fontane) Fontane, Theodor, F:292

Efficiency, E:96

Energy, E:245

Industry (Performance), 1:226

Machine, M:12

Efficient cause [philosophy] Aristotle (Philosophy of nature), A:568

Tick, T:239 with picture

Trap-door spider picture on, T:365

Calendar (Ancient calendars), C:35 Turtle (Young), T:473 **Efflorescence** Copts, Ci:345 Hydrate, H:398 Egg cell Pollen (Fertilization), P:656 Doll (Ancient times), D:244 **Effluent** Drug (Drugs in ancient times), D:320 Sewage, S:283 Egg placer Education (Sumerian and Egyptian ed-Grasshopper (The body), G:305 Effort arm ucation), E:89 Lever, L:196 Egg-plant Embalming (Ancient embalming). **Egalitarianism** See Aubergine E:225 Convicts in Australia (The convict leg-Egg tempera Painting picture on, P:38; (Tempera) Exploration (Ancient and medieval exacy), Ci:325 ploration), E:417 P:43 with pictures Egbert [king of Wessexl, E:97 Funeral customs (History), F:485 Anglo-Saxons, A:371 Egg timer England (The Anglo-Saxon period), Hourglass, H:321 Golden Age, G:239 Hairdressing (Ancient times), H:12 with E:274 Egg tooth Heptarchy, H:158 Bird. B:348 picture Egg. E:97 with pictures Eggleston, Edward [American writer], Heart picture on, H:101 See also list of Related Articles Hittites (History), H:232 Animal (Sexual reproduction), A:404 Eggplant Invention (The first civilizations), 1314: (Ancient Greece) I:314 with diagram; (Providing food) See Aubergine A:406 Eggs and bacon (plant) Library (Libraries of papyrus), L:229 Baby (Before birth), B:4 Birdsfoot trefoil, B:361 Linen (History), L:292 Bee (Life of the honey bee), B:186 with Eglantine (plant), E:99 Map (Ancient maps), M:190 Egmont work by Goethel Mathematics (Early civilization), M256 Beetle (The life cycle of beetles), B:197 Goethe, Johann Wolfgang von, G:228 Medicine (Origins in the Middle East), Bird (Laying and hatching eggs), B:346 Ego [psychoanalysis], E:99 with picture; (The reproductive Freud, Sigmund (His life), F:437 Numeration system (The Egyptian nusystem) B:353 Personality (Freud's psychoanalytic meral system), N:349 with dia-Butterfly (The reproductive system), theory), P:300 B:687, B:688 with picture Psychoanalysis (Psychoanalytic theory), Paint (The history of paint), P:26 Cell (Meiosis), C:297; (Before 1900) P:826 Perfume (History), P:281 C:303 with picture Phoenicia (Foreign control), P:429 Egret, E:99 with picture Chicken (Producing eggs), C:398 Egypt, E:100 with pictures and maps Pottery picture on, P:723 Dinosaur (Reproduction and growth), Pythagoras' theorum (Origins), P:877 See also list of Related Articles Africa (Ways of life in northern Africa). Scale, Weighing (Balances), S:119 Eagle (The life of an eagle), E:3 Sculpture (Kinds of sculpture), S:190; A:125 with picture Embryo (Fertilization), E:226 Aviation (Aircraft nationality marks), (The first sculptors) S:192; (Egyp-Fertilization, F:59 tian) S:196 with picture; pictures Fish (Reproductive system), F:170; Cairo, C:16 with pictures on S:188, S:196 (How fish live) F:172; (How fish re-Drugs (Drugs in ancient times), D:317 Shelter (Ancient times), S:351 produce) F:176 Flag picture on, F:200 Tomb, T:292 Fly (The life of a fly), F:279 with picture Fraction (History), F:389 World, History of the pictures on, Food (Food from animals), F:295 W:330, W:332; (The Nile Valley) Jordan (The 1967 war), J:145 Frog, F:466 Joseph, J:147 W:334 Grasshopper (Young); (How a grass-Library, L:230 **EgyptAir** hopper lays eggs), G:306 Napoleon I (Egypt invaded), N:20 Airline (table), A:208 Heredity (The structure of chromo-Nasser, Gamal Abdel, N:28 Egyptian alabaster somes and genes), H:166 Numeration systems (The Egyptian nu-Alabaster, A:223 with picture Human body (The reproductive sysmeral system), N:349 Egyptian archaeology tem), H:358 Archaeology (The 1900's), A:504 Painting (Egyptian painting), P:46 with Ichneumon wasp, 1:24 picture Egyptian cotton Incubator, 1:53 Pharaoh, P:357 Cotton (Kinds of cotton), Cl:382 Insect (Reproductive system), 1:251; Egyptian Soldiers Leading Prisoners Sadat, Anwar el,, S:7 (Reproduction) R:254 with picture Science (Early civilizations), \$:143 Sculpture (As a record of history), Lobster (Young), L:346 United Kingdom, History of the (De-S:186 with picture; (Egyptian) Maize (How the plant reproduces), cline of the empire), U:152 S:196 M:72 United Nations (UN) (Arab-Israeli con-Egyptian vulture Vulture (Old World vultures), V:429 Mosquito, M:635 flicts), U:175 Moth, M:640 World War II (table: The Allies), W:381 with picture Ostrich (How the ostrich lives), 0:515 Egypt and Israel [work by Flinders] Egyptians (people) Education (Sumerian and Egyptian ed Petrie, Sir Flinders, P:328 with picture Poultry (Marketing poultry and eggs), Egypt, Ancient, E:120 with pictures and ucation), E:89 P:726 Egypt (People), E:108 Reproduction (Through sexual repro-See also list of Related Articles Writing (Phonetics), W:423 duction), R:223 Agriculture (The Middle East), A:171 Egyptology Egypt, Ancient (Learning about ancient Reptile (Reproduction), R:233 with picture Seed (How seeds develop), S:236 Alphabet (The Egyptians), A:282 with Egypt's Liberation: The Philosophy of Egypt), E:129 Spider, So:226; picture on So:225 pictures the Revolution [book by Nasser] Tadpole picture on, T:5 Astronomy (History), A:697

Book (Early books), B:455

Bronze picture on, B:588

Nasser, Gamal Abdel, N:28

Ehrengard [work by Dinesen]

Light (Photons), L:258 El Misti (volcano), E:219 Dinesen, Isak, D:173 Ehrlich, Paul (German bacteriologist). Motion (Modifications of Newton's El Niño (warm current), E:219 laws), M:648 Drought (Countries affected by E:131 Drug (The drug revolution), D:318 Newton, Sir Isaac (Personal characterdrought), D:309 Medicine (The medical revolution), istics). N:189 Ocean (Discoveries), 0:400 Nuclear energy (The first artificially Pacific Ocean (Ocean life), P:15 Eichmann, Adolf [Nazi leader], E:131 created fission reaction), N:329 South America (Climate), So:94 Nuclear weapon (World War II), N:340 El Paso [Texas], E:219 Wallenberg, Raoul, W:25 War crime (World War II), W:35 Physics (Quantum theory), P:477; (Ein-El Salón Mexico imusic by Copland stein and relativity) P:477; (Uncov-Copland, Aaron, Ci:340 Elder duck, E:131 ering the secrets of the atom) El Salvador, E:220 with pictures and Duck (Food), D:336 P:478 with picture Eldetic Imagery See also list of Related Articles Memory (Unusually good memory). Quantum mechanics (History), Q:6 Relativity, R:191 Duarte, losé Napoleón, D:328 M:343 Flag picture on, F:203 Research (Basic research), R:235 Eiffel, Alexandre Gustave [French en-Science (To philosophical thought), Maya. M:277 gineerl, E:131 Reagan, Ronald Wilson, R:159 S:139: (Expressing findings math-Eiffel Tower, E:131 San Salvador, S:69 Statue of Liberty (The statue), So:305 ematically) S:142; picture on S:147 Fland Tachyon, T:4 Elffel Tower (France), E:131 with picture Animal picture on, A:384 Einstein, Elsa wife of Eiffel, Alexandre Gustave, E:131 Eland (animal), E:135 Einstein, Albert, E:132 Paris (Gardens, squares, and parks), Antelope (Habits and appearance), **Elnstein theory** P:179 with map and picture A:448 with picture See Relativity Eight Chinese Songs Imusic by Lam-Elapid Einsteinium [element], E:133 Snake (Fangs and venom glands), Einstein's theory of gravitation Lambert, Constant, L:34 S:509; (Elapids) S:516 Gravitation, G:309 Eight Cousins [book by Aicott] Snakebite (Snake poisons), S:518 Relativity, R:191 Alcott, Louisa May, A:240 Flastic fluid Einthoven, Willem (Dutch physiologist), Eight-Hour Day Fluid, F:272 E:133 Labour Day, L:2 Elastic limit [physical property] Electrocardiograph, E:174 Eight Jelly Rolls (dance by Tharp) Elasticity, E:136 Heart (invention of new medical instru-Tharp, Twyla, T:187 Strength of materials (How strength is Eight, The ments), H:111 determined), So:353 Nobel Prizes (Physiology or medicine), Ashcan School, A:620 Elastic modulus (physical property) Realism (in painting), R:160 Nr230 Elasticity, E:136 Eighteen Poems [poetry by Thomas] Éire Elasticity (physical property), E:136 Thomas, Dylan, T:222 See Ireland Hooke, Robert, H:273 Eisenhower, Dwight David (U.S. Presi-Eightfold Path (religion) Mechanics, M:303 dentl, E:132 with pictures Buddhism (Dharma), B:615 Rubber, R:429; (The chemistry of natu-Eisenstaedt, Alfred | American photog-Eighth Day, The Iwork by Wilder ral rubber) R:438 Wilder, Thornton Niven, W:250 rapherl, E:135 Textile (Knitted fabrics), T:171 Eisenstein, Sergel Mikhailovich (Rus-Eljkman, Christiaan Elastin (protein) Vitamin (History), V:412 sian film directorl, E:135 Connective tissue, Cl:289 Elkon Film Industry (Filmmaking In Europe), Elat (Israeli port), E:136 See Icon F:101 Israel (The Six-Day War), I:439 Ellat Elsteddfod |festival of music|, E:135 Elba (island, Mediterranean Sea), E:136 Elat, E:136 Bard, B:108 Napoleon I (Exile to Elba), N:22 Elldon Dam, E:131 Powys, P:733 **Fibaite** Elidon Reservoir Wales (Way of life), W:11 Tourmaline, T:313 Victoria (Water, Irrigation, mining, and Ejaculation Elbe River (central Europe), E:136 Reproduction, Human (In males), power), V:363 with picture Czech Republic (The Bohemian Basin), Elleen (work by Herbert) R:226 Herbert, Victor, H:162 Ekaterinburg Elbow lanatomyl, E:136 with diagram Eine kleine Nachtmusik (music by Mo-Sverdlovsk, So:453 Arm, A:577 Ekeberg, Anders (Swedish chemist) Elbrus, Mount Mozart, Wolfgang Amadeus (Other Tantalum, T:30 See Mount Elbrus El Aaiun (Western Sahara), E:135 works), M:682 Elburz Mountains Elnhorn, Alferd El Al Israel Airlines Iran (Mountains), 1:336 Procaine, P:794 Airline (table), A:208 Elda Edda [poems] Einstein, Albert [German-born physi-El Alamein (Egypt), E:135 Edda, E:74 Montgomery, Bernard Law, M:578 cist), E:131 Sigurd, S:416 Astronomy (A new view of the uni-World War II (In northern Africa), Elder, Sir Thomas (Australian colonist), versel, A:699 W:390 Autograph picture on, A:871 El Capitan (work by Sousal Waite, Peter, W:8 Boston, B:474 Sousa, John Philip, So:55 Elder [tree], E:136 Eclipse (The study of eclipses), E:55 El Dorado (fictitious kingdom), E:137 Elder Statesman, The [work by Eliot) E-mc2, E:2 with portrait Gold (Gold in the New World), G:236 Eliot, T. S., E:211 Ether (physics), E:335 Raleigh, Sir Walter (His fall), R:128

El Greco

See Greco, El

Gravitation, G:309

Laser (History), L:74

Elderberry

Elder, E:136

Welding (Arc welding), W:143 with di-

agram

Electric battery

See Battery

Electric bell, E:140 with picture Electricity (table), E:168 Elderly people Induction, Electric, 1:205 **Electric Boat Company** Old age, 0:425 Holland, John Philip, H:246 Electric lamp "Eldorado" [poem by Poe] Lamp (Electric lamps), L:37 Electric brake Pne. Edgar Allan (Poetry), P:608 Brake (Other kinds of brakes), B:521 Electric light, E:149 Fleanor Crosses, E137 with picture See also list of Related Articles Electric car, E:140 with pictures Eleanor of Aquitaine [wife of Henry II], Edison, Thomas Alva, E:81 Electric catfish E:137 Electric locomotive Catfish, C:259 Henry II. H:151 Electric railways (Kinds of electric rail-Eleanor of Castile Electric fish, E:145 ways), E:163 Eleanor Crosses, E:137 Electric cell Locomotive, L:353 Eleazer Ben Jair (jewish leader) Electricity (Sources of electricity), Electric measurement, E:152 Masada, M:239 E:168 See also list of Related Articles Electric chair Elecampane, E:138 with picture Electrocution, E:174 Electric meter, E:152 with pictures Elect (religion) Electric motor, E:153 with pictures Calvin, John (Calvinism), C:44 Electric charge See also list of Related Articles Atom. A:726 Election, E:138 Electricity, E:167 with pictures Electric potential See also list of Related Articles Muscle (How muscles are stimulated) Democracy, D:101 Electromagnetic waves, E:176 M:716 Lightning (Electrically charged clouds), Pope (The election of a pope), P:675 Electric power, E:157 with pictures L:272 with diagrams Predestination, P:741 Electric circuit, E:141 See also list of Related Articles Preferential voting, P:741 Air conditioning (Capacity of air condi-See also list of Related Articles Primary election, P:776 Proportional representation, P:809 Electricity (table), E:168, 169 tioners), A:193 Coal (Coal as a fuel), Cl:121 voting, V:427 Wheatstone bridge, W:226 with dia-**Election address** Electricity picture on, E:166 Greece (Energy resources), G:341 Election (Election campaigns), E:139 Electric cooker Japan (Energy sources), J:54 Election campaign Cooker, Ci:332 Philippines, P:387 Advertising (Political effects), A:65 Electric current, E:143 Spain, So:181 Election. E:139 Converter, Ci:318 Transformer, T:339 Political parties (Raising funds), P:649 Electric measurement, E:152 Television (Effects on institutions), Electricity (table), E:168; (Conduction of Windmill, W:270 Electric power delivery system pic T:128 electric current) E:168; diagram Elective Affinities [work by Goethe] on E:169 ture on, E:160 Electric rallway, E:162 with pictures Goethe, Johann Wolfgang von, G:228 Electronics, E:183 See also list of Related Articles Electric discharge Electric light (Gaseous-discharge Electricity picture on, E:166 Election, E:138 Electoral college, E:139 lamps), E:150 Electric ray [fish] See also list of Related Articles Torpedo ray, T:304 Electric eel, E:143 with picture Election, E:138 Fish picture on, F:173 Electric razor President (Electoral systems), P:764 Electric engine Razor, R:149 United States, History of the (Setting Car, C:174 Electric refrigerator Refrigeration, R:185 with picture up the government), U:243 Electric car, E:140 Electorate Electric eye, E:144 with pictures Electric rocket Election (Election campaigns), E:139 Burglar alarm, B:650 Rocket, R:321 Electra [Greek mythology], E:139 Electronics (Electronics and light), Electric shock First aid (Restoring breathing), F:143: See also list of Related Articles E:190 Electra complex Electric field, E:144 Shock treatment, S:388 Electra, E:139 Electricity (Kinds of electricity), E:166; Electric sign Oedipus complex, 0:413 Neon, N:73 with picture picture on E:167; (table) E:168 Electra [play by Euripides] Light (The nature of light), L:258 Electric signals Euripides, E:355 Electronics, E:183 Electric fish, E:145 Electra [play by Giraudoux] Electric furnace, E:145 Electric storage heater Giraudoux, Jean, G:166 Electric furnace process Heating (Electricity), H:127 Electric switch, E:164 with diagram Electric analogue watch Iron and steel, 1:393 with diagrams Electricity (Controlling electricity), Watch (History), W:67 Electric fuse Electric arc [electricity], E:140 Fuse [electric], F:508 E:169 Arc light, A:498 Electric generator, E:145, with pictures Electric tachometer Rocket (Electric rockets), R:321 See also list of Related Articles Tachometer, T:4 Electric arc furnace Electricity, E:165; (Sources of electric-Electric train Electric motor picture on, E:154 Iron and steel (The electric furnace ity) E:168 process), I:393; (The birth of mod-Rainmaking (Rainmaking methods). Electric railway, E:162 ern steelmaking) 1:401; diagrams Railway, R:112 on 1:393 Refrigeration (Gas refrigeration), R:185 Electric utilities Edison, Thomas Alva (Electric utilities Electric arc welding Electric guitar and electrical manufacturing), El Helium (Uses), H:143 Music (Electronic instruments), M:729

Rock music, R:311 Electric heating

Electric induction

Heating, H:125 with picture

Electric power (The electric power in

dustry), E:161

Electric voltage

Electronics, E:183

with diagram

Electrochemistry, E:174

Electrotyping, E:195

H:405

tained), M:51

Metallurgy, M:376

Ore. 0:492

S:429

Sp:370

Electrolyte, E:176

Copper (Electrolytic refining), Ci:343

Electricity (Chemical effects), E:170

Energy supply (Hydrogen), E:249

Hair (Disorders of the hair and scalp),

Hydrogen (Preparation of hydrogen),

Magnesium (How magnesium is ob-

Silver (Extracting and refining silver),

Sodium (Extracting sodium), So:16

Submarine (Life aboard a submarine).

Battery (Kinds of batteries), B:154; (Al-

Electricity (Electric circuits), E:169 chemistry), C:371 Nervous system (How neurons carry Electric wave Radio (From sound waves to electric impulses), N:83 waves), R:74; (From electric waves Electroconvulsive therapy Mental illness, M:355 to radio waves) R:75 Electric wiring, E:164 Shock treatment, \$:388 Electrical discharge machining Electrocution [execution], E:174 (EDM) Electrode, E:174 Machine tool, M:17 Electrical energy Energy supply (Sources of energy), work), B:154 Electric arc. E:140 F:247 Electrical engineering Engineering, E:256 picture on E:255 **Electrical hygrometer** Electrocardiograph, E:173 Electrocution, E:174 Hygrometer (Other hygrometers), H:410 Electrical resistance Electrolyte, E:176 Electricity (Electric circuits, E:169 Fuel cell, F:479 Ohm. 0:419 Geissler tube, G:69 Ohm, Georg Simon, O:419 Graphite, G:301 Ohm's law, O:419 Electrical thermometer Thermometer, T:215 Electrical wiring House, H:324 Electrode Electrician, E:164 with picture Electricity, E:165 with pictures See also list of Related articles Electric circuit, E:141 Electric current, E:143 Electric generator, E:145 Electric motor, E:153

Electric power, E:157

N:319

Safety, S:11

Electroanalysis

1800's) P:476

Solar energy, So:25

ing), So:137

Electrochemistry, E:174

Electrocardiogram (ECG)

Electrocardiograph, E:173

and treatment) H:106

Heart (Symptoms and diagnosis),

Electrochemical machining (ECM)

Chemistry (Development of physical

Einthoven, Willem, E:132

instruments) H:111

Electrochemical oxidation

Oxidation, O:535 with picture

Electromotive series, E:177

Machine tool, M:17

Electrochemical series

Electrochemistry, E:174

Gilbert, William, G:157

Heat, H:111; (Sources of heat) H:116

netism) M:58 with diagram

Nuclear energy (The role of nuclear

energy in power production),

Physics, P:473; (Developments in the

Space exploration (Eating and drink-

and diagnosis) H:104; (Diagnosis

H:104; (Invention of new medical

Norway (Energy sources), N:299

Magnetism (How magnetism works),

M:56; (Experimenting with mag-

Psychiatry (Somatic therapy), P:826 Battery (How dry primary batteries Electricity (Sources of electricity), Electrolysis (How electrolysis works), Iron and steel (The electric furnace process), 1:393 with diagram

Electrolysis (How electrolysis works), F:175 Electrolytic refining Copper, Ci:343 with diagram Electromagnet, E:176 Electric generator (Parts of a genera-

kaline cells) B:155

Electrochemistry, E:174

tor), E:146 with diagram Electromagnetism, E:177 Magnetism, M:54, M:56 with diagram Magnetism (Experimenting with magnetism), M:58 with diagram

Electromagnetic force Grand unified theories, G:295 Electromagnetic induction Electric generator (Basic principles), E:145 Electricity (Generators), E:168 Electromagnetism, E:177 Energy supply (The industrial revolution), E:250 Faraday, Michael, F:26 Henry, Joseph, H:154

Induction coil, 1:205 Invention (The Industrial Revolution),

Magnetic levitation train, M:52 Radio (Early development), R:80 Space exploration (Expanding space activities), So:162

Transformer, T:339 Electromagnetic maglev

Magnetic levitation train, M:52 Electromagnetic pump

Pump, P:854

Electromagnetic radiation Electromagnetic waves, E:176 Fluorescence, F:273 Gamma rays, G:26 Light (Electromagnetic waves), L:259

with diagram Physics (Developments in the 1800's), P:476; (The beginning of modern

Electrolysis (How electrolysis works), Vacuum tube (How a vacuum tube F:175 Fuel cell, F:479 works), V:297 Electrolytic cell Electronics (The development of electronics), E:192 Electrodeposition Electrotyping, E:195 Electrodialysis Water (Fresh water from the sea), W:79 Electrodrill Petroleum (Directional drilling), P:344 Electrodynamic maglev Magnetic levitation train, M:52 Electrodynamic wattmeter Wattmeter, W:102 with picture "Electrodynamics of Moving Bodies, The" [paper by Einstein] Einsteln, Albert (The papers of 1905), E:131 Electroencephalogram (EEG) Electroencephalograph, E:175 Electroencephalograph, E:175 Brain (Disorders of the brain), B:517 Dream (The biology of dreams), D:305 Sleep (What happens during sleep), S:484 Electroforming Electrotyping, E:195 Electrogalvanizing [industrial process] Heart (Heart terms), H:102; (Symptoms Galvanizing, G:18 Electroluminescence Electrocardiograph, E:173 with picture Electric light, E:152 Electroluminescent panel Electric light (Other sources of electric light), E:151 Electrolysis, E:175 See also list of Related Articles Alkali, A:269 Aluminium (Smelting the alumina), A:292 Anodizing, A:425 Calcium, C:23 Clausius, Rudolf Julius Emmanuel, Ci:69

Physics, P:473

trons) A:725

Electron theory [chemistry]

chemistry), C:371

Electron transport chain

Atom picture on, A:726; (The elec-

Chemistry (Development of physical

Lorenz, Hendrick Antoon, L:385

Electron shell

Electric measurement, E:152

circuit) E:169

works), E:185

Ohm's law, 0:419

Electromotive force

Volt, V:423

Electricity, E:168; (table) E:168; (Electric

Electronics (How an electronic system

Electromotive series, E:177

Respiration (Cellular respiration).

Industrial espionage, 1:208

Telephone tapping, T:111

Watch, W:66 with picture

See also list of Related Articles

Electronic tagging, E:180

Electronics engineering

Electronic watch

Electronics, E:183

Element, Chemical, E:193 with tables Mysteries, M:750 Engineering, E:256 Eleuthera (island) See also list of Related Articles Electrons Bahamas (Land and climate), B:29 Compound, Ci:250 Electron, E:178 Elevated railway, E:209 with picture Flectronics (How an electronic system Earth (The earth's crust), E:19 Human body (Chemical elements and Elevation works), E:185 Bench mark, B:234 Electronvolt lunit of measure molecules), H:350 Life (The chemical basis of life), L:248 Climate (Differences in the surface of Cosmic rays, Cl:370 Nuclear energy (Nuclear fission), N:321 the land), Ci:81 Matter (Compounds and elements), Particle accelerator (Flow accelerators Elevation of the Cross lpainting by Ru-M:261 Transmutation of elements, T:344 bens] work), P:205 Painting (Other baroque masters), P:62 Elementary backstroke Electrophonics, E:194 Swimming (Other strokes), So:485 with picture Electroplaque Rubens, Peter Paul, R:441 Elementary particle Electric eel, E:143 Boson, **B:475** Elevator Electroplating See Lift Gluon, G:216 Aluminium (Finishing aluminium), Elevator laviation Lepton, L:184 Particle physics (Families of particles), Aeropiane (The tail assembly), A:92; Iron and steel (Finishing), 1:398 (Basic movements and controls) Record player (Preparing the record Elementary Treatise on Chemistry moulds), R:165 Airship (How airships fly), A:217 [book by Lavolsier] Silver (Extracting and repairing silver), Glider (The tail assembly), G:207 Lavoisier, Antoine Laurent, L:109 S:429 Eleven-Plus [examination], E:209 Elements of Geometry book by Legen-Electroscope Elf ifolklorel, E:210 Cosmic rays (Early studies), Ci:371 Elf owl Legendre, Adrien Marie, L:155 Electrostatic attraction Animal picture on, A:391 Elements of Political Economy book Induction, Electric, 1:205 Bird picture on, B:329 Electrostatic copying by Mill] Owl. 0:528 with picture Photocopying, P:434 Mill, lames, M:471 Elfstedentocht Elements (work by Euclid) Electrostatic filters Netherlands (Holidays and recreation), Euclid, E:352 Air conditioning (Cleaning the air), Geometry (Greek geometry), G:96 A:191; picture on A:194 Elgar, Sir Edward William [British Mathematics (The Greeks and Ro-Electrostatic generator composer], E:210 mans), M:257 Van de Graff generator, V:308 March. M:201 Elemites [ancient people] Electrostatic machine Elgin (Scotland) Geissler tube, G:69 Cuneiform, Ci:497 Grampian Region (Places to visit), Iran (Early days), I:338 Electrostatic precipitation G:209 Persia, Ancient (Early civilization), Air cleaner (Types of air cleaners), Elgin Cathedral P:154 A:189 Moray, M:604 Air conditioning (Cleaning the air), Eleonora's falcon Figin Marbles (sculpture), E:210 Falcon (Smaller falcons). F:12 A:191; picture on A:194 Elgin, Earl of (British statesman), E:210 Electrotyping, E:193 Elephant, E:202 with pictures Eihuyar, Fausto de Electrum (metal) See also list of Related Articles Tungsten, T:440 Animal, A:377 with picture; (Home Gold (Gold In seawater), G:231 Elhuyar, Juan José de Money (The first minted coins), M:548 ranges) A:409 Tungsten, T:440 Elegiac poetry Animal (Group living), A:410 Fil wheel Greek literature, G:357 Assam picture on, A:671 Ferris wheel, F:58 Elegies of Chu, The (poetry by Qu Circus (At the circus), Ci:9 with pic-Ellena Skipper Yuan) tures: Butterfly picture on, B:682 Qu Yuan, Q:4 Ear picture on, E:13 Elijah (Biblical figure), E:210 Elegies (poem by Donne) Heart (Birds and mammais), H:114 Malachi, Book of, M:77 Donne, John, D:267 Mammal diagram on, M:131 Elijah [music by Mendelssohn] Elephant bird lextinct bird), E:208 with Elegy (poem), E:193 Mendelssohn, Felix (His life), M:346 Greek literature (Elegiac poetry), G:357 picture Elliah Muhammad Poetry (Lyric poetry), P:609 Elephant man's disease See Muhammad, Elijah Elegy Written in a Country Church-Neurofibromatosis, N:102 Elimination [physiology], E:210 Elephant-nose mormyrid yard" [poem by Gray] Drug (Elimination from the body), Gray, Thomas, G:310 with picture Fish picture on, F:165 Elektra (opera by Strauss) Elephant seal picture on, S:227 Eliot, George (English novelist), E:210 Seal, S:224; (The body of a seal) S:225; Strauss, Richard, So:349 with portrait Elektron picture on S:227 Novel (Great Britain), N:312 Amber, A:301 Elephanta Island [India] Ellot, T. S. [British writer], E:211 with Element [mathematics] Maharashtra (Places to visit), M:66 Determinant, D:140 Elephantiasis [disease], E:208 American literature (Modernist po-Set theory, S:274 Filaria, F:79 Element 104 [artificial element], E:200 Elephant's-ear [plant], E:209 with picetry), A:318 Metaphysical poets, M:378 Element 105 (artificial element), E:200 ture Nobel Prize for literature, N:232 Element 106 (artificial element), E:201 See also Taro Poetry (Poetry of the 1900's), P:616

Eleusinian Mysteries [Greek religious

rituals], E:209

Demeter, D:100

Pound, Ezra Loomis, P:728

Elisha (Biblical character), E:211

Element 107 [artificial element], E:201

Element 108 (artificial element), E:201

Element 109 [artificial element], E:201

Penny picture on, P:264

Philip, Prince, P:367

Royal families (Europe), R:419 F-217 Elision [poetry], E:211 Ellis, Lester (Australian boxer) Poetry (table), P:611 Royal Family of the United Kingdom, R:423 with pictures: (The new Boxing (World titles), B:498 Elisir d'amore, L'Iopera by Donizettil Ellis, William Webb [English school-Donizetti, Gaetano, D:266 Elizabethan Age) R:426: (The Royal Family in the 1990's) R:426 boy] Elland Rugby football (History), R:447 Elizabeth (queen of the Belgians) Dido, D:167 See Albert I Ellis Island, E:217 Elite Elizabeth, Saint [Biblical figure], E:215 Immigration picture on, 1:35 Bolivia (Way of life), B:426 Ellison, Ralph [American author], E218 Elizabethan Age Elixir [alcohol], E:211 America literature (Fiction and other Age (Historic ages), A:156 Elixir of life Elizabeth I, E:212 prose), A:320 with portrait Alchemy, A:235 Novel (After World War II), N:314 Elizabethan houses Magic (The Middle Ages), M:46 Elloca (India) Elixirs of the Devil, The book by Hoff-Stately homes (Elizabethan and Jaco-Maharashtra (Places to visit), M:66 bean houses), So:298 with pic-Ellsworth, Lincoln (U.S. engineer) Hoffmann, Ernst Theodor Amadeus, tures Antarctica (Exploration by air), E:469 Elizabethan theatre 14:240 Drama, D:291 with map Elizabeth Appleton (book by O'Hara) O'Hara, John, 0:417 Elm [tree], E:218 with pictures Globe theatre, G:210 Shakespeare, William, S:306 with plc-Dutch elm disease, D:358 Elizabeth [South Australia], E:212 Wood picture on, W:299 Elizabeth [the Queen Mother] tures Elmbridge [England], E:219 Elizabeth [ship] Elizabeth II (Early years), E:214 with Drake, Sir Francis (Voyage around the Elmer Gantry (book by Lewis) picture Lewis, Sinclair, L:199 world), D:281 George VI, G:101 Elmer the Great play by Lardner Royal Family of the United Kingdom, Elk (animal), E:215 with picture Lardner, Ring, L:65 R:423, R:425; picture on R:424 Deer, D:78; (North American deer) Elmo, Saint Elizabeth Farm House [Australia], E:215 D:80 with picture Moose, M:600 with pictures Saint Elmo's fire, 5:33 Macarthur, John (Building commerce), Elodea (plant), E:219 M:4 with picture Ell (measure of length), E:216 Elohim [Hebrew], E:219 Elizabeth I (queen of England), E:212 Ellery Queen's Mystery Magazine with picture [book by Queen] God. G:224 Allen, William Cardinal, A:272 Queen, Ellery, Q:12 Jehovah, J:81 Elorde, Cirilo Gabriel Filipino boxet, Ellesmere (England) Boleyn, Anne, B:424 Church of England (History), C:503 Shropshire (Places to visit), S:403 Els, Ernie (South African golfer) Drake, Sir Francis, D:280 Ellesmere Island (Northwest Territo-Golf picture on, G:250 Duel. D:339 riesl. E:216 Peary, Robert Edwin, P:237 England (The reign of Elizabeth I), Elsa (lioness) Adamson, Joy, A:32 with picture F:278 Ellesmere Port and Neston (England), Elsie Venner (book by Holmes) Essex (History), E:333 P-216 Holmes, Oliver Wendell (His writings), Ireland, History of (Under Elizabeth I), Ellice Islands (islands, Pacific) 6370 Gilbert Islands, G:158 H:248 Elssier, Fanny (Austrian bailerina) Knox, John (Later career), K:310 Kiribati (History), K:288 Ballet (Romantic ballet), B:56 Leicester, Earl of, L:158 Tuvalu (History), T:478 Elton, Charles Sutherland (English b) Mary, Queen of Scots (Her death), Ellington, Duke (American jazz com-Mt237 poseri, E:216 with picture ologisti, E:225 Jazz (The swing era), J:76; picture Mary I, M:236 Elul [month] Calendar (The Hebrew calendar), C34 New Year's Day (Early customs), N:139 on]:75 Protestantism (The conservative re-**Ellington, Edward Kennedy** Elver form movements), P:816 See Ellington, Duke Eel (Life cycle), E:95 Raleigh, Sir Walter (Raleigh and Eliza-Elliot, Gilbert John Murray Elves beth I), R:127 See Minto, Earl of See Elf Elwyn-Jones, Lord [British politician, Scotland, History of (The union of the Elliott, Herb [Australian runner], E:217 crowns), S:172 Ellipse [astronomy] E:225 Shakespeare, William, S:298 Kepler, Johannes, K:231 Ely, Isle of [England] Cambridgeshire, C:49 Spanish Armada (Background to bat-Satellite, Artificial (Satellite orbits), tle), So:190 S:95 Ely [England], E:225 Cambridgeshire (Places to visit), C50 Tudor, House of, T:436 Ellipse [mathematics], E:217 with dia-Ely cathedral [England] picture on, Elizabeth II (queen of England), E:213 grams with pictures Orbit, 0:485 with diagram Norman architecture picture on, N28 Canada, Government of, C:90 Ellipsograph Canada, History of picture on, C:107 Ellipse, E:217 with diagram Elysium [mythology], E:225 Charles, Prince, C:353 Elliptical galaxy Hades, H:4 Elytis, Odysseus (Greek poet) Maffei galaxies, M:39 Edward, Prince, E:95 Greek literature (Modern Greek liter) Elliptical geometry England (Government), E:262 ture), G:358 Geometry (Non-Euclidean geometry), Flag pictures on, F:213 Nobel Prizes (Literature), N:233 Keating, Paul, K:207 Elzevir, Bonaventure (Dutch printer) Knighthood, Orders of picture on, Elliptical orbit (astronomy) Space exploration (Kinds of earth or-K:299 Elzevir, Louis [Dutch printer], E:225

bits), So:131 with diagram Ellis, Havelock (British psychologistl,

Emancipation

lews (Emergence into freedom), J:115 Fern (Life cycle of a fern), F:56 Essay (Formal essays), E:330 Slavery (The decline of slavery), S:482 Fertilization, F:59 New Thought, N:137 Thoreau, Henry David (His life), T:225 Fmancipation Proclamation, The Fish (How fish live), F:172 with picture Transcendentalism, T:338 American Civil War, A:306 Germination, G:141 Emery (rock), E:229 Lincoln, Abraham, L:285 Growth (Early development), G:388 Emetic imedicinel, E:229 United States, History of the, U:251 Maize (How the plant develops), M:72 **Emetine** with diagram Emancipist Australia, History of (From jail to col-Ipecac, 1:329 Pregnancy (The baby during preg-EMF nancy), P:741 ony), A:801 See Electromotive force Reproduction, Human, R:225 with pic-Blgge, John Thomas, B:286 Emi Koussi [mountain, Chad] Macquarie, Lachlan (Convict reform), ture: (Development of the em-Chad (Land and climate), C:332 bryo) R:227 with diagrams ÉmigrésE:227 Test tube baby, T:161 with diagram Redfern, William, R:175 French Revolution (The revolution be-**Embryo transfer** Transportation, T:362 gins), F:452; (The Legislative As-Breeding (Animal breeding), B:552 Wentworth, William Charles, W:153 sembly) F:452 Infertility (Treatment), I:229 **Emancipist Party** Embryoblast (biology) Emigration Australia, History of, A:802 Embryo (Human development), E:227 Immigration, I:34 Embalming, E:225 Ireland (Ancestry and population), Embryologist (biology) Funeral customs (Preparation of the 1:354 Embryo, E:226 body), F:484 Émile [work by Rousseau] Embryology, E:228 Honey (History), H:265 Rousseau, Jean Jacques (His ideas), Baer, Karl Ernest von, B:25 Mummy, M:699 Biology (What biologists study), B:305 R5413 Embankment dam Emilia Galotti [work by Lessing] Dam (Kinds of dams), D:13 Embryo, E:226 Lessing, Gotthold Ephraim, L:187 Evolution, E:410 Embargo, E:226 Emin Pasha [German explorer], E:229 International relations (Nonmilitary Fertilization, F:59 Exploration (table), E:425 Plant, P:540 sanctions), 1:294 Stanley and Livingstone (Stanley's ex-Pregnancy, P:741 Embarkation for Cythera, The [paintplorations), So:278 Zoology (What zoologists study), ing by Watteaul Eminent domain [law], E:230 Painting (Rococo), P:66 with picture Town planning (Governmental author-Embryology of Animals, The book by Watteau, Antoine, W:102 ity), T:318 Embassy Raerl Eminent Victorians (book by Strachey) Baer, Karl Ernest von. B:25 Ambassador, A:301 Biography (Modern biography), B:302 Diplomacy (Diplomatic duties), D:184 Embryonic disc (biology) Strachey, Lytton, So:342 Embryo (Human development), E:227 Embden goose Emir iruleri Emden |German cruiser|, E:228 Goose (Kinds of geese), G:254 Bahrain (Government), B:31 Emerald (gemstone), E:228 with picture Embezziernent (crime), E:226 Kuwait (Government), K:343 Convicts in Australia (Background of Bervi. B:261 United Arab Emirates (Government), Colombia (Mining), Cl:173 the convicts), Ci:321 Embioptera (entomology) Gem (Colour), G:70; picture on G:73; Emission nebula Insect (table), 1:262 (Value of gems) G:72 Nebula (Diffuse nebulae), N:65 South America (Mining), So:99 Emblem (symbol), E:226 Emission standards Emerald Buddha, Temple of the Red Cross, R:171 Air pollution (Control of air pollution), Symbol, So:515 with pictures [Bangkok] A:203 Embolism [disorder], E:226 Bangkok picture on, B:80 Car (Air poliution), C:175 Emeraid City [work by Williamson] Diving, Underwater (Dangers of un-Emitter Williamson, David, W:258 derwater diving), D:209 Electronics (Solid-state components), Stroke (Causes), So:358 Emerald Irrigation Scheme, E:228 E:189 Embossing idecoration, E:226 with pic-Emerald isle (poetic name for ireland), Emma (book by Austen) ture F-228 Austen, jane, A:748 Leather, L:140 **Emerald toucanet** Emmer [grain], E:230 Embroidered floor coverings Toucan picture on, T:309 Emmet, Robert lirish patrioti, E:230 Rugs and carpets (Other methods), Emergence of Lincoln, The book by with portrait **Nevins**] Emotion [psychology], E:230 Embroidery Ihandicraftl, E:226 with pic-Nevins, Allan, N:106 Allergy (Emotional factors), A:274 ture and diagrams Emergency brake Ambivalence, A:302 Brake (Mechanical brakes), B:520 Appliqué, A:479 Brain (In producing emotions), B:516 Beadwork, B:165 Emergency core cooling system Perception, P:277 Crewel, CI:424 Nuclear reactor (The safety system), Personality (Emotional reactions), Petit point, P:326 with picture N:334 P:300 Sampler, S:62 **Emergent literacy** Emotional development West Bengal (Local crafts), W:159 Reading (Developing good readers), Embryo, E:226 with pictures Health, H:95 **Emotional factors** Emerson, Ralph Waldo (American au-See also list of Related Articles Allergy, A:274 Animal (Sexual reproduction), A:404 thorl, E:229 with portrait **Emotional liability** Baby (The developing baby), B:4 American literature (Nonfiction prose), Learning disabilities (Types), L:139 Bird (Laying and hatching eggs), B:346 A:314 with portrait **Emotional protection** Egg (Development of a bird's egg), April (Quotations), A:482 Clothing, Ci:90

Brown, John (Harper's Ferry), B:592

E:98

Emotional stress Mental illness, M:354 Emotivism |moral theory| Ethics (in the 1900's), E:337 Empanadas [food] Argentina (Food and drink). A:556 Chile (Food and drink), C:418 Empedocles [Greek philosopher], E:231 Chemistry (Beginnings), C:368 Colour (Early theories of colour vision), Ci:200 Geology (History), G:91 Pre-Socratic philosophy (The teachings of Parmenides), P:770 Empennage Aeroplane (The tail assembly), A:92 Glider (The tail assembly), G:207 Emperor [title], E:231 See also articles on emperors listed under their keyword, eg as in Constantine the Great Emperor gum moth, E:231 Emperor Jones, The [play by O'Neill] Christophe, Henri, C:496 O'Neill, Eugene Gladstone (His plays), 0:452 Emperor moth, E:231 **Emperor penguin** Animal (Incubation), A:406 Animal picture on, A:392 Bird pictures on, B:316, B:336 Penguin (Appearance), P:258 with picture **Emperor snapper** Fish picture on, F:163 Emphatic form [grammar] Conjugation, Ci:286 Tense, T:151 Emphysema [disease], E:231 Bronchitis, 8:586 Smoking (Why smoking is dangerous), 50:499 Empire [political unit], E:232 Empire [sociology] Indian, American (Empires and states), Empire State Building [New York City], E:232 with picture skyscraper, S:477 Empire State Mail [Albany] New York picture on, N:140 **Empire style** Bed picture on, B:180 Clothing (The 1700's), Ci:103; (The 1800's) Ci:104 Furniture, F:504 with picture Empirical knowledge See Epistemology **Empirical** politics Political science (Political theory and philosophy), P:653 **Empirical studies** Political science (The development of political science), P:653 Empiricism [philosophy], E:232 See also list of Related Articles Philosophy (Epistemology), P:420, (table) P:421; (Modern philosophy) P:425

Positivism, P:709 Psychology (Beginnings), P:829 **Employee benefits** pension, P:265 Profit sharing, P:795 **Employee relations** Personnel management, P:301 **Employment** Civil Service, Ci:42 Handicapped (In community life), H:45 with picture Technology (The creation of unsatisfying jobs), T:87 Women's movements (Women's lives), W:298 with picture Empress [title] Emperor, E:231 Empress of Heaven [Taoist deity] Religion picture on, R:203 Empson, Sir William (British poet), E:233 Empty set [mathematics] Algebra (Statements and equations). Set theory, S:275 Emu, E:233 with picture Emulsifier Food additive (Emulsifiers, stabilizers, and thickeners), F:304 Ice cream (How dairy ice cream is made) picture on, I:8 Insecticide (Spraying and dusting), E264 **Emulsifying agent** Emulsion, E:233 Emulsion (chemistry), E:233 Homogenization, H:257 **Emulsion paint** Paint (Household paints), P:23 Enamel, E:233 with pictures Porcelain (Painting), P:688 Teeth, T:92 with diagram Enamelware Enamel, E:233 Encaustic Painting, P:42 with picture **Encaustic tiling** Tile, T:247 Encephalin [physiology] Endorphin, E:244 Encephalitis [disease], E:234 Brain (Infectious diseases), B:517 Mosquito, M:633 Nervous system (Disorders of the nervous system), N:85 Encephalitis lethargica See Sleeping sickness **Encephalograph** See Electroencephalograph Enchanted Garden, The Imusic by Dunhill) Dunhill, Thomas Frederick, D:349 **Enchanted Isles** Galapagos Islands, G:9 **Encke's Comet** Comet (table), Ci:216

Enclave (territory), E:235

Enclosed seed [botany]

Plant (Seeds), P:555 with diagrams

Encoder [electronics] Television (The television camera). T:129 with diagram Encoding Codes and ciphers, Ci:147 Data protection, D:40 Industrial espionage (Countermeasures to industrial espionage). Encomienda system Latin America (Colonial rule), L89 Legazpi, Miguel López de, L:154 Encounter Bay [Australia], E:235 Baudin, Nicolas, B:159 Flinders, Matthew (Voyage around Australia), F:227 **Encounter group** Sensitivity training, S:256 **Encryption** [computers] Data protection, D:40 Encumbrance [law], E:235 Encyclical (religion), E:235 Pope (The papacy today), P:680 Encyclopaedia Britannica Encyclopedia (An age of experiment, E:240 Encyclopedia, E:236 with pictures See also list of Related Articles Literature for children, L:323 Encyclopedia of the Philosophical Sciences (book by Hegel) Hegel, G. W. F. (Hegel's writings), Encyclopédie (book by Diderot) Age of Reason (Influence of the Age of Reason), A:157 Diderot, Denis, D:167 Encyclopedia (An age of experiment) E:240 French literature (The Age of Reason) F:448 Science (The Age of Reason), S:147 **Encyclopedists** Encyclopedia (An age of experiment) E:240 End of Laissez Faire, The book by Keynes] Keynes, John Maynard, K:240 End of the Road, The book by Barth Barth, John, B:120 End of the World, The book by Eg glestonl Eggleston, Edward, E:98 **End paper** Book, B:453 Paperwork, P:138 Endangered species, E:242 with pic Animal (Special feature), A:397; [The future of animals) A:412 with plo ture Bird. B:357 with picture Conservation (Wildlife conservation) Ci:297; (Asia) Ci:302; (Africa)

Seed (Kinds of seeds), S:235

Trapping, T:366 with pictures

Enclosure [agriculture], E:235 with plo

Enclosing trap

ture

Elephant (Protecting elephants), E:207 Mammal (The future of mammals), Rhinoceros (Protecting the rhinoceros), R:255 Zoo (Wildlife conservation), Z:502

See also Wildlife conservation Endara, Guillermo Ipresident of Pan-

ama Panama (Panama today), P:120 Endeavour (ship)

Australia, History of (First sightings), A:798 with picture

Banks, Sir Joseph, B:96 Botany Bay, B:481

Cook, James picture on, Ci:328; (Life on Cook's ships) Ci:331 Hicks, Zachary, H:192

Queensland picture on, Q:25 Endeavour (space shuttle)

Space exploration picture on, So:129 Endemic disease

Disease (Spread of infectious diseases), D:191 Epidemic, E:312

Endemic typhus [disease] Typhus (Murine typhus), T:488 Enderby Land [Antarctica], E:243

Antarctica (Early exploration), A:442

Enders, John Franklin American bacteriologist), E:243 Measles, M:292

Endive, E:243 Endless chain

Block and tackle, B:391 with picture Endless Flow [sculpture by Tan] Sculpture (Environmental sculpture),

S:218 Endless Pillar (sculpture by Tan) Sculpture (Environmental sculpture),

S:218 **Endocarditis**

Heart, H:110 Endocardium

Heart (Chambers), H:102

Endocarp [botany]

Fruit (How botanists classify fruits), F:474

Endocrine control hormone Hormone, H:279

Endocrine gland (anatomy) Blood (Carrying hormones), B:396 Gland, G:182; diagram on G:181 Hormone (Human hormones), H:277

Human body (The endocrine system), H:358

Pituitary gland, P:528 Secretion, S:233 Thyroid gland, T:234

Endocrine system Human body, H:358; (Trans-vision

three-dimensional picture) H:353 Endoderm (biology)

Coelom, Ci:151 Embryo (Human development), **E:227** Endodermis

Root (The outer tissues), R:393 Endodontics

Dentistry (Branches of dentistry), D:119

Endogamy Marriage (Marriage in other cultures), M:219

Fever, F:65 Endometriosis [disorder], E:244

Endogenous pyrogen

Infertility (Causes), 1:228 Endoplasmic reticulum

Cell. C:295 with diagram Endorphin, E:244

Acupuncture, A:28 Alcoholism (Cause), A:239 Brain (The brain's chemical messen-

gers), B:516 Placebo, P:531

Endorsement [banking] Negotiable instrument, N:69 Promissory note, P:800

Endoscope, E:244 with pictures Fibre optics (Uses of optical fibres),

Medicine (Diagnosis), M:307

Endosperm Bran. B:522

Cotyledon, Ci:390 Flour (How white flour is milled), F:238

Germination, G:141 Maize (How the plant develops), M:72 with diagram

Pollen (Fertilization), P:656 Seed (Seed development in angiosperms), \$:236

Wheat (Food for people), W:215; (Structure) W:216 with diagram

Endosteum Bone (Structure of the bones), B:446

Endothermic Dinosaur (How dinosaurs lived), D:180; (Reproduction and growth)

D:181 Warm-blooded animal, W:40

Endothermic reaction

Refrigeration (Ice), R:184 Endotoxin

Toxin, T:320 **Endowment life insurance** Insurance, 1:272

Endurance racing

Car racing (Sports car racing), C:181 with picture

Motorboat racing (Types of racing), M:657

Endymion [Greek mythology], E:244 Selene, \$:244

Endymion [poetry by Keats] Keats, John (His life), K:208; (His work) K:208

Enemy of the People, An Iplay by (bsen) Ibsen, Henrik (His plays), 1:4

Energia (rocket) Space exploration (Launch vehicles), So:132 with picture; (Back into space) So:160

Energy, E:245 with pictures and diagrams See also list of Related Articles Biomass, B:310

Calorie, C:44

Cell (Producing energy), C:298 with diagrams

Ecology (Energy flow), E:57; diagram on E:58

E=mc2, E:2

Food (How the body uses food), F:295 Fuel. F:477

Heat (What heat is), H:117 with diagram

International Energy Agency, 1:290 Laser (The nature of atoms), L:72

Nutrition (Nutrients), N:362

Ocean. 0:390

Perpetual motion machine, P:288 Physics (Developments in the 1800's),

Planck, Max Karl Ernst Ludwig, P:532 Radioactivity, R:87

Star (How stars produce energy), So:280

Sun (How the sun produces energy), So:416

Thermodynamics, T:214 Thermography, T:215 with picture Uranium, U:272 Water power, W:91 Work. W:315

Energy [art]

Sculpture (Movement), S:191 with picture

Energy crisis

Car (The petrol shortage), C:174 Coal, Cl:119; (Recent developments) Cl:133

Gas (The gas industry today), G:57 Petroleum (The future of the petroleum industry), P:353

Solar energy (History), So:25

Energy Efficiency Ratio (EER) Air conditioning (Electric power re-

quirements), A:194 **Energy level**

Atom (Electron energy levels), A:727 with diagrams Energy supply, E:247 with pictures

See also list of Related Articles Conservation (Energy conservation), Ci:298 with picture

Industry, 1:223

Ocean (The importance of the ocean), 0:389

Waste disposal (incineration), W:65

Energy, Conservation of See Conservation of energy

Enewetak (atoll, Pacific Ocean), E:252 World War II (Island hopping in the Central Pacific), W:398

Enfleld (England), E:253

Enfleurage

Perfume (Plant substances), P:282 Eng and Chang [Siamese twins]

Siamese twins, S:405 with picture

Engels, Friedrich [German radical], E:253 with portrait

Economics (Karl Marx and Communism), E:65

Marx, Karl, M:234 Materialism, M:254

Dover, Strait of, D:274

England (Surface features), E:270

United Kingdom, U:42; (The United

Kingdom today) U:153 lvan] Political science (Democracy and so-Trevelyan, George Macaulay, T:395 **English Civil War** cialism), P:654 Civil War, English, Cl:43 English sonnet Engine, E:253 Paetry (Forms), P:613 English cocker spaniel See also list of Related Articles English Teacher, The book by Aeroplane (Power for flight), A:94 Cocker spaniel, Ci:141 with picture English Comic Writers [work by Hazlitt] Narayan] Diesel engine, D:168 Narayan, R. K., N:24 Internal-combustion engine, I:288 Hazlitt, William, H:92 English Congregational Church [reli-English toy terrierE:289 Motorboat racing (Engine designs), gion group) Manchester terrier, M:148 Motorcycle, M:652 with pictures Baptists, B:100 English Traits (book by Emerson) Emerson, Ralph Waldo (His prose Petrol engine, P:331 English elm Elm, E:218 with picture works), E:229 Starter, So:295 English Fairy Tales (book by Jacobs) **English yew** Steam engine, So:307 Thermodynamics, T:214 lacobs, loseph, 1:8 Yew, Y:452 with picture Transmission, T:341 with diagram English Farming and Why I Turned It English Up (book by Bramah) Engine analyser (instrument), E:253 See English language Engineering, E:254 with pictures Bramah, Ernest, B:521 Engram [religion] See also list of Related Articles English foxhound, E:281 with picture Scientology, S:152 Manufacturing (Design and engineer-English grammar Engraving See also list of Related Articles ing), M:168 Grammar, G:287 Rome, Ancient (Architecture and engi-**English holly** Etching, E:334 neering), R:375 Holly, H:246 Glass (Copper-wheel engraving), Gitt Engineering survey English horn [musical instrument]. E:281 with picture Surveying (Types of surveys), So:445 Music (Woodwind instruments). Graphic arts, G:300 Engineer's level M:728 with picture Prehistoric people (The appearance of Level, L:196 English Ivy [plant] art), P:758 England, E:261 with pictures and maps Gardening picture on, G:41 Printing, P:780 See also list of Related Articles Stamp collecting (Printing), So:271 lvy, I:477 with picture Arms (Arms of England) pictures on, **Enhanced radiation bomb** English language, E:281 Bomb (Hydrogen bomb), B:436 A1585 See also list of Related Articles Bank of England, B:95 Accent. A:19 **Enhanced recovery** Classicism, Cl:66 Anglo-Saxons, A:371 Petroleum, P:346 ENIAC (Electronic Numerical integra Coal (Developments in England), Basic English, B:132 CI:132 tor And Computer) England, E:266 Computer (The first electronic com-Cotton, Cl:388 English literature, E:283 puters), Ch:265 with picture County, Cl:396 French language, F:443 Electronics (The development of elec-Cricket (Cricket in Britain), Ci:429 Irish literature, I:381 Domesday Book, D:254 South Africa (Languages), So:59 tronics). E:192 Enigma Variations, The music by Flag picture on, F:211 United Kingdom (Language), U:52 Furniture, F:497 with picture United States (Language), U:195 Elgar! Glass (The Middle Ages), G:196; pic-English literature, E:283 Elgar, Sir Edward William, E:210 ture on G:198 See also list of Related Articles **Eniwetok** Hundred Years' War, H:372 Classicism (England), Ci:66 Enewetak, E:252 Law (Developments in Britain), L:115 Realism (In fiction), R:159 **Enkare Nairobi** with picture "English Mail-Coach, The" (essay by De Nairobi, N:B Painting (Romanticism), P:68; (Pre ae-Quinceyl Enkephalin Brain (The brain's chemical messer lite Brotherhood) P:73 De Quincey, Thomas, D:125 Rugby football, R:443 gers), B:516 English neoclassical style England, Bank of Furniture (English neoclassical furni-Endorphin, E:244 See Bank of England ture), F:503 with picture Enlarger Photography (Projection printing), English alphabet **English notation** Chess (Chess notation), C:384 P:454 with picture Alphabet, A:284 **English Bards and Scotch Reviewers** English oak Enlightenment (poetry by Byron) Oak pictures on, 0:372, 0:373 Age of Reason, A:156 English Poets [work by Hazlitt] Byron, Lord (Byron's life), B:695; Buddha, B:614 France (Age of Reason), F:402 (Byron's poetry) B:696 Hazlitt, William, H:92 French literature (The Age of Reason) English Bill of Rights [1689] English porcelain Bill of rights, B:293 Porcelain, P:690 F:448 English billiards German literature, G:108 English Prose Style Iwork by Read] Ennead [Egyptian mythology] Billiards and snooker, B:294 with dia-Read, Sir Herbert, R:149 Mythology (The Great Ennead), M.751 gram English riding English bond Horse (How to ride), H:296 with picwith pictures Enneads (lectures by Piotinus) Brick (Bonds), B:559 with diagram fures English Channel, E:279 with map English saddle Plotinus, P:597 Enniskillen [Northern Ireland] Channel swimming, C:345 Horse (The saddle), H:294 Ireland, History of picture on, 1371 Channel Tunnel, C:345 Saddle, S:7 with diagram

English setter

Dog picture on, D:226

English Social History book by Treve-

Ennius, Quintus (Latin poet)

:98

Latin literature (Early Latin literature)

Enermous Room, The (book by Cummingsl Cummings, E. E., Cl:497 Enosis Cyprus (History), Ci:514 Enough Rope [work by Parker] Parker, Dorothy, P:187 **Enquiry Concerning Political Justice** ... [book by Godwin] Godwin, William, G:226 **Enriched flour** Flour (How white flour is milled). F:238 Wheat (Food for people), W:215 **Enriched rice** Rice (Food), R:262 Enriched uranium U-235, U:2 Uranium (Refining and processing uranium ore), U:274 Ensemble Chamber music, C:338 Classical music, Ci:55 with pictures Opera (table), O:457, O:458 Ensemble playing (drama) Theatre (Creating a role), T:196 Ensign Flag (Navy flags), F:212 with picture Ensor, James [Belgian painter], E:297 with portrait Entablature [architecture] Architecture (table), A:515 with picture; (Minoan architecture) A:521 Cathedral (Architectural history), C:265 Column, Cl:213 Entall (estate), E:297 Entanology, E:297 Entebbe (Ugandai, E:297 Entente, Council of the (alliance) Burkina Faso (History), B:655 Ivory Coast (History), I:476 **Entente Cordiale** France (The Third Republic), F:415 Germany (Foreign policy), G:134 Lansdowne, Marquess of, L:56 United Kingdom, History of the (World War I), U:149 World War I (A system of military alliances), W:364 **Entente, Triple** Triple Entente, T:409 World War I (A system of military alliances), W:304 Enterotoxaemia (disease) Goat (Disease), G:223 Enterprise beach Barbados picture on, B:103 Enterprise [ship]

Aircraft carrier (The modern carrier

Navy (Navies during the Cold War),

Entertainer, The play by Osbornel

0:390

fleet), A:203

Decatur, Stephen, D:65

Port Phillip Bay, P:694

Osborne, John, O:509

Entertainment

Enola Gay [aeroplane]

W:402

World War II (The atomic bomb).

Personality (Personality and environ-See Recreation ment). P:300 Entomologist Entomology, E:297 Entomology, E:297 Biology (table), B:305 Zoology (What zoologists study), Z:506 See also Insect Entrée Dancing (Kinds of dancing), D:22 Entrepreneur Immigration (Immigration policies), 1:35 Industrial Revolution, 1:211 D:193 Entrepreneurial system lecomomics Capitalism, C:145 Entropy, E:298 Heat (Disorder), H:112 Entry barrier Industry (Structure), 1:224 Entry of Christ into Brussels, The [painting by Ensor] Ensor, James, E:297 pictures Entry visa Immigration (Immigration policies), Car. C:175 Entry Space exploration (Space exploration terms), So:130 Entwistie, John [British musician] Who, The, W:241 with picture Enumerator Census (Taking a census), C:315 Enunciation Pronunciation, P:802 Envelope address Letter writing, L:190 with picture Envelope, E:298 Environment, E:298 with pictures Adaptation, A:32 Animal (Adaptations for sensing the environment), A:401 Baby (Growth and development), B:6 Balance of nature (Maintaining the balance), B:34 Behaviour, B:202 City (Physical environment), Ci:22 Conservation, Ci:292 Deafness (Environmental factors), D:56 Ecology, E:55 N:223 Environmental pollution, E:300 Extinct animal (Causes of extinction), E:432 Fish (How fish adjust to change), F:175 Genetic engineering (Concerns about genetic engineering), G:81 Heredity (Heredity and environment), H:170 with picture P:334 Infant mortality, 1:228 Intelligence (Where intelligence comes from), I:276 P:583 Life (Living things and their environment), L:246 Nuclear energy (The industry and the environment), N:328 Nuclear reactor (Reactors and the environment), N:334 Ocean (As an influence on climate),

Pesticide (Pesticides and the environment), P:319 Plant (Where plants live), P:546; (Environmental factors) P:562 United Nations (UN) (Controlling the environment), U:173 World, W:328 **Environmental acoustics** Acoustics, A:25 Sound (Controlling sound), So:52 Environmental disease Disease (Noninfectious diseases). **Environmental effects** Tourism, T:312 Environmental engineering Engineering (Environmental engineering). E:256 **Environmental geology** Geology (table), G:92 Environmental pollution, E:300 with Air pollution, A:201 Animal, A:412 City (Future cities), Cl:37 Coal (Coal as a fuel), Ci:121; (Coal research) Cl:132 Conservation (Wildlife conservation), Cl:297 picture on Cl:300; (Europe) Electric power (Fossil-fuelled steam electric power stations), E:158 Energy supply, E:251 Eutrophication, E:401 Fertilizer (Problems of the fertilizer industry), F:61 Great Lakes (Pollution), G:324 Health (Environmental health hazards), Heredity (Natural selection), H:168 Indian Ocean, k171 Industry, I:223 Murray River, M:710 Murrumbidgee, M:711 Natural resources (Conservation and development), N:47 Nitrogen (Nitrogen and pollution), Nuclear energy (The industry and the environment), N:328 Ocean, 0:401 Pacific Ocean, P:15 Pesticide (Pesticides and the environment), P:319 Petrol engine (Air pollution controls), Petroleum, P:353 Plastics (Plastics and the environment). Rain (Variations in rainfall), R:118 Sanitation, S:74 Smog, S:500 Sound (Controlling sound), So:52 Technology, T:86 Thermal pollution, T:214 Water pollution, W:88

World (Threats to the environment),	Asia (Arts), A:645	Root (The outer tissues), R:393
W:328	Fiction (History), F:69	Skin, S:469
Environmental sculpture	French literature (Early French litera-	Stem (Herbaceous stems), So:315
Sculpture, S:218 with pictures	ture), F:445	diagram
Envoûtement	German literature, G:107	Tissue (Plant tissues), T:263
Magic (Contagious magic), M:45	Greek literature, G:357	Epididymis [anatomy]
Enzyme, E:310	Kyrgyzstan (People), K:348	Testicle, T:162
See also list of Related Articles	Literature (Forms of Literature), L:312	Epiglottis
Bacteria (The structure of bacteria), B:20	Mythology (Mythical beings), M:752	Hiccup, H:191
	Poetry (Narrative poetry), P:610;	Pharynx, P:359 with picture
Biochemistry (Biochemical research), B:298	(Medieval poetry) P:615 Epic of Gilgamesh (poem)	Throat, T:230 T:231
Biosynthesis, B:314		Trachea, T:323
Blood (Red blood cells), B:393	See Gilgamesh, Epic of Epic of the Wheat (book by Norris)	Epigram, The (book by Keller) Keller, Gottfried, K:211
Catalysis, C:255	Norris, Frank, N:245	Epigram (poem), E:312
Cell (Growth and specialization),	Epic theatre	Greek literature (The Hellenistic A
C:298; (Producing proteins) C:299	Brecht, Bertolt, B:551	G:358
Corn syrup, Cl:357	Drama, D:300	Epigraphy
Digestive system, D:171; diagram on	Epicardium [anatomy]	Palaeography, P:100
D:172	Heart (Muscular walls), H:101	Epilepsy, E:312
Food (Regulating body processes),	Epicentre	Brain (The work of the brain), B:514
F:296	Earthquake (How an earthquake be-	(Other brain disorders) B:518
Fungi (How a fungus lives), F:485	gins), E:33 with picture	Electroencephalograph, E:175
Heredity, H:165; (Genes and proteins)	Epicotyl	First aid (Convulsion and epileptic
H:170; (The era of genetic engi-	Germination, G:141	zure), F:145
neering) H:174	Plant (Germination), P:560 with dia-	Nervous system (Disorders of the
Human body (Chemical elements and	gram	vous system), N:85
molecules), H:350	Seed (How seeds sprout), S:237	Epiphany (religion), E:313
Nutrition (Proteins), N:363	Epictetus (Greek philosopher), E:311	Christmas (Religious practices), C4
Pepsin, P:271	Ethics (Greek and Roman), E:336	January (Special days), J:30
Phenylketonuria (PKU), P:361	Greek literature (The Graeco-Roman	Epiphyseal cartilage
Stomach (The stomach's work), So:333	Age), G:358	Glant, G:151
Trace elements, T:322	Epicureanism	Epiphyseal growth plate
Vitamin (How vitamins work), V:411	Epicurus, E:312	Bone (Development of bones), 8:44
Eocene Epoch	Ethics (Systems of ethics), E:336	Epiphyte, E:313
Earth (The Cenozoic Era), E:28; table	Hedonism, H:133	Amazon rainforest, A:298
on E:30	Hellenistic Age, H:144	Bromeliad, B:585
Prehistoric animal diagram on, P:747 Eohippus	Philosophy (table), P:421; (Stoic philos-	Fern, F:55
Extinct animal (Types of extinction),	ophy and Epicureanismi P:424	Lichen, L:240
E:432	Epicurus (Greek philosopher), E:312	Liverwort, L:336
Horse (Origins of the horse), H:303	Atom (Development of the atomic the-	Moss, M:636
Prehistoric animal (The development	ory), A:728	Orchid, 0:489
of placentals), P:747 with picture	Atomism, A:731	Parasite, P:171
EOKA (organization)	Lucretius, L:412	Spanish moss, So:199
Cyprus (History), Ci:514	Philosophy (Stole philosophy and	Epirus [Greece]
Eosinophii	Epicureanism), P:424 Epicyclic gear	Greece, G:338
Blood (Protecting against disease),	Gear (Types of gears), G:68	Episcopal Church, Scottish, E313
B:396	Epidaurus (Ancient Greece), E:312	Episcopal Church, E:313
Epee	Epidemic [medicine], E:312	Anglicans, A:368
Fencing, F:50 with picture	Disease (Spread of infectious dis-	Episiotomy (surgery) Childbirth (Methods of childbirth)
Ephedrine (drug), E:311	eases), D:191	
Asthma, A:678	Medicine (The Middle Ages), M:314	C:412
Ephemeroptera lentomologyi	Epidemic typhus	Episode Classical music (Fugue), Ch:58
Insect (table), I:261	Rickettsia, R:272	
Ephesians, Epistle to the, E:311	Typhus, T:488	Fugue, F:481 Epistaxis
New Testament (Paul's missionary	Epidendrum oncidioides	Nosebleed, N:304 with picture
journeys), N:136	Orchid picture on, 0:490	Epistemology
Ephesus (ancient Greece), E:311	Epidermal appendage	Philosophy, P:420
Seven Wonders of the Ancient World,	Skin (Hair, nails, and glands), S:469	Epistie [letter], E:313
S:279	with picture	Bible (The Letters), B:274
Ephesus, Council of [431]	Epidermis	lesus Christ, 1:96
Cyril of Alexandria, Saint, Ci:515	Epithelium, E:313	New Testament (Books), N:135
Roman Catholic Church (The recogni-	Human body, H:351	Paul, Saint (Paul's letters and ideas),
tion of Christianity), R:338	Keratin, K:236	-220
Ephialtes [Greek political leader]	Leaf (Obtaining the raw materials),	Epistle of
Pericles, P:281	L:130	See under key words
Epic [poem], E:311	Nail [biology], N:5	Epistles [book by Horace]
See also list of Related Articles	Plant (Leaves), P:554 with picture	E Pluribus Unum, E:2

Epitaph of a Small Winner (book by Machado de Assis]

Latin-American literature (Realism).

Machado de Assis, Joaquim Maria, Epithalamion (poem by Spenser)

Spenser, Edmund (Spenser's other poems), So:213

Epithelial tissue [anatomy]

Human body (Cells and tissues), H:350 Epithelium, E:313

Epithelioma (disorder), E:313 Epithelium (anatomy), E:313 Biopsy, **B:313**

Epithelioma, E:313 Tissue (Animal tissues), T:263 Epoch Igeologyl

Earth (History of the earth), E:25

Ероху Plastics (table: Thermosetting materials), P:579

Epping Forest (England), E:314 Essex (Local government), E:332; (Land features) E:333

EP recognition Extrasensory perception, E:433

Epsom and Ewell (England), E:314 Epsom salt Laxative, L:123

Salts, S:58 Epstein-Barr virus, E:314 Glandular fever, G:184

Myalgic encephalomyelitis, M:748 Epstein, Sir Jacob, E:314

Equal-area projection Map (Map projections), M:187

Equal set [mathematics]

Set theory, S:275 Equal sign

Subtraction (Subtraction questions), So:373

Equalitarian system

Family (Traditional families in other cultures). F:23

Equality [book by Tawney] Tawney, Richard Henry, T:69

Equation

Algebra, A:252; (Working with equations) A:257

Computer (in engineering and the sciences), Ci:253 Geometry (Analytic geometry), G:97

Mathematics, M:255 Science (Mathematics and logic),

S:139; (Expressing findings mathematically) \$:142

Equation-solving techniques Algebra (Solving equations), A:252

Equator [geography], E:314 with maps Earth (The earth's shape and size), E:19 Latitude, L:100

Magnetic equator, M:51

Map (Geographic grids), M:187 with diagram

Equatorial climate

Equator, E:314

Equatorial current Ocean (Currents), 0:394

Pacific Ocean (Currents and tides),

P:15

Equatorial Guinea (Africa), E:315

Flag picture on, F:200 Guinea, G:413

Malabo, M:77

Equatorial Islands

Line Islands, L:291 Equestrian (sport)

Olympic Games table on, 0:438

Equestrian monument

Sculpture (Medieval and Renaissance sculptors), S:193

Equestrian order, E:316

Equilateral triangle

Triangle (Kinds of triangles), T:397 with diagram

Equilibrium (physics)

Gravity, Centre of, G:309 Lever (Law of equilibrium), L:197

Statics, So:301

Equilibrium price

Price (Demand and supply), P:774 Supply and demand, So:430

Equilibrium, Chemical, E:316

Evaporation (How evaporation occurs), E403

Equinoctial year

Year, Y:441 Equinox, E:316

Hipparchus, H:217 March, M:199

September (Activities), S:262

Equipment obligation Bond (Kinds of bonds), B:444

Equity [law], E:317

Common law, Ci:220 Law (Developments in Britain), L:115

Mortgage, M:621

Taxation (Principles of taxation), T:70 Trial (History), T:396

Equivalence, Principle of [physics] Gravitation (Einstein's theory of relativ-

ity), G:309

Relativity (General relativity theory), R:193

Equivalent fraction

Fraction, F:384 with diagrams

Equivalent set

Set theory, S:275 ER-1470 [anthropology]

Homo habilis, H:257

Er (symbol)

Erbium, E:318

Era (geology)

Earth (History of the earth), E:25

Erase head

Tape recorder (Erasing and recording), T:38

Eraser

Pencil (Cased pencils), P:252

Erasmus Montanus (play by Holberg)

Holberg, Ludvig, H:244 Erasmus, Desiderius (Dutch scholar), E:317 with portrait

German literature (The Renaissance). G:107

Humanism (Arts), H:363

Luther, Martin (Theological writings), 1:419

Renaissance, R:220 with picture Spanish literature (The 1500's), So:194 Zwingli, Huldreich (His life), Z:510

Erasmus, Saint

Saint Elmo's fire, \$:33 Erato [Greek mythology]

Muses, M:717

F-317 Geography (Beginnings), G:89

Eratosthenes [Greek mathematician].

Hellenistic Age, H:144 Map (Ancient maps), M:190

Physics (The Greeks), P:474

Sieve of Eratosthenes, S:414 Erbium (element), E:318

Ercilla y Zúñiga, Alonso de [Spanish poeti

Latin-American literature (Colonial literature), L:95

Ere ibeji (wooden figures) Sculpture (Personal sculpture), S:203

Erebus, Mount See Mount Erebus

Erec |poem by Hartmann von Aue|

Hartmann von Aue, H:71 Erechtheum

Acropolis, A:26

Athens (The Acropolis and its buildings), A:707 with map

Sculpture (As part of architecture), S:189 with picture

Erewash (England), E:318

Era [geography]

Sahara (Land and climate), S:19

Fra junit of measure Work, W:315

Ergonovine [drug] Ergot, E:318

Ergot [fungus], E:318 Plant (Diseases), P:567

Rye, R:509

Ergotamine [drug]

Ergot, E:318

Ergotism (disease) Ergot, E:318

Plant (Diseases), P:567 Rye (Ergotism), R:509

Ergotoxine [drug]

Ergot, E:318

Eric, or Little by Little [book by Farrar] Farrar, Frederic William, F:28

Eric the Red [Viking explorer], E:318

Exploration (The Vikings), E:419

Greenland (History), G:363 Iceland (History), 1:23

Norway (The Viking period), N:300 Vikings (The Norwegian Vikings),

V:391 Eric's Saga

Ericson, Leif, E:318

Ericson, Leif [Norse explorer], E:318

Canada, History of (Early European exploration), C:97

Exploration (The Vikings), E:419

Natural bridge, N:46

Ericsson, John (Swedish-American en-Peneplain, P:257 ity) So:133 gineer), E:319 River (The channel of a river), R:289 Escape wheel Monitor and Merrimack, M:562 Watch (Mechanical watch), W:66 Soil (Soil conservation), So:22 Propeller, P:807 United Kingdom, Geology of the. Escapement Ship (Development of the screw pro-U:109 Clock (Mechanical clocks), Ci:85 peller), S:372 Water (How water shapes the earth). Pendulum (Clock pendulums), P:256 Erie Canal, E:319 with map W:73 Watch (Mechanical watches), Wise **Erle Lowland** Wind. W:267 Escapement (conservation) Pennsylvania (Land), P:261 **Erosion mountain** Salmon (Salmon conservation), \$54 Erle-Ontario Lowland Mountain, M:667 Escarole |vegetable| New York (Land), N:140 Ershad, H. M. (Bangladeshi military Endive, E:243 Erie, Lake leaderl Eschatology Lake Erle, E:22 with map Mythology (The end of the world), Bangladesh (The new nation), B:89 Erigena, Johannes Scotus Itrish philos-**ERTS** |satellite| opher), E:319 Satellite, Artificial (Important satellites), Eschenbach, Wolfram von Erikson, Jon [swimmer] Wolfram von Eschenbach, W:288 English Channel, E:280 Eruption (anatomy) Escherichia coli Erikson, Leif Teeth (Deciduous teeth), T:90 Genetic engineering (in medicine), See Ericson, Leif Eruption [geology] Erin Mount Saint Helens, M:662 with pic-Escobar, Marisol Ireland, I:349 frine Marisol, M:211 Erinyes [Greek mythology] Vesuvius, V:351 Escorial [Spain], E:324 Furies, F:492 with pictures Volcano (The eruption of a volcano), Architecture (Later Renaissance archi-Hades, H:4 V:416 with pictures; (Classifying tecture), A:527 Eritrea, E:319 with pictures and map volcanic eruptions) V:420 Spain (Architecture), So:175 Asmara, A:665 Ervine, St. John lirish novelisti, E:323 Escrow (law), E:324 Ethiopia (Haile Selassie), E:341 Eryops [extinct animal] Escrow agent (law) Flag picture on, F:200 Prehistoric animal picture on, P:745 Escrow, E:324 ERM Erysipelas (disorder), E:323 Escutcheon See European Monetary System Erythema Idisorderl, E:323 Heraldry (Elements of a coat of arms), Ermine Inflammation, E229 H:160 Fur (table), F:488 Erythroblastosis fetalis Esdaile, James Heraldry diagram on, H:159 Rh factor, R:249 Hypnotism (Scientific studies), H:415 Stoat, So:328 with picture Erythrocyte Esdraeion, Plain of [Israel], E:324 Weasel, W:109 Blood (Red blood cells), B:393 with Israel (The Coastal Plain), 1:433 **Ermine Street** picture Fefahan Roman roads, R:346 Erythrolabe [anatomy] See Isfahan Ern Malley (pen name), E:321 Eye (The retina), E:437 Eshkol, Levi (Israeli political leader), Ernst, Max [German painter], E:321 Erythromycin (antibiotic), E:323 F:324 Dadaism, D:2 Antibiotic (table), A:456 Eskdale Painting (Surrealism), P:83 Whooping cough (Treatment and pre-Annandale and Eskdale, A:424 Surrealism, So:442 vention), W:242 Esker (geology) Eroica (music by Beethoven) Glacier (How glaciers shape the land) Erythropoletin Beethoven, Ludwig van (The second Blood (Regulating the volume of blood G:175 with diagram period), B:195 components), B:397 Eskimo Eros [astronomy] Es (symbol) See Inuit Asteroid, A:678 Einsteinlum, E:132 Eros [Greek mythology], E:321 with pic-Esau (Biblical figure), E:323 See Extrasensory perception ture Edom, E:82 Espailer [botany], E:329 Cupid, Ci:500 Hittites (History), H:232 Espenschied, Lloyd [American engl-Daphne, D:32 Isaac, £410 neerl Erosion, E:322 with pictures Cables (The spread of telephone (& Jacob, E8 See also list of Related Articles Escalator, E:323 with picture bles), C:6 Alfalfa (As a cover crop), A:247 Escalator clause Esperance Bay [Australia], E:329 Conservation (Soil conservation), Inflation (Theories about the causes of Esperanto (language), E:329 Ci:293 Language (Universal languages), List inflation), 1:230 Desert (How deserts develop and Escape Izoologyl Universal language, U:265 change), D:132 Animal (Escaping by flight), A:404 Esperpento [literature] Earth (How the earth changes), E:21 Spanish literature (The Generation of Escape magic with pictures Magician, M:48 1898), So:197 Earth picture on, E:23 Escape Me Never [book by Kennedy] Espionage, E:329 Environmental pollution (Soil pollu-Kennedy, Margaret, K:218 Industrial espionage, I:208 Esposizione Universale di Roma tion), E:304 Escape theory [astronomy] Rome (The 1900's), R:370 with picture Forestry (Water), F:357 Moon (Scientific theories), M:593 with Geomorphology, G:99 picture Espressivo Glacier (How glaciers shape the land), Escape velocity Music (table), M:727 G:175 Orbit, 0:485 **Esquiline Hill** Humus, H:372 Rome (The city today), R:364 Space exploration (Space exploration

terms), So:130; (Overcoming grav-

Esquivel, Manuel [Belize political

Science fiction (Science fiction today), leader] Oil (Volatile oils), 0:420 Belize (History), B:226 Spielberg, Steven, So:228 with picture Perfume (How perfumes are made). ESSA [satellite] Satellite, Artificial (Important satellites), Eta [people] Essential World English (book by E-06 Essai de Grammaire Générale book Hoaben] Hogben, Lancelot, H:242 by Proudhonl Proudhon, Pierre Joseph, P:819 Essentials [book by Toomer] Toomer, Jean, T:297 Aquatint, A:485 Essay, E:330 Literature (Forms of Literature), 1:313 Esseguibo [river] Essay Concerning Human Under-Guyana (Land), G:434 standing, An (book by Locke) Essex [ship] Porter, David, P:695 Locke, John (His philosophy), L:351 Essex [England], E:331 Philosophy (Empiricism), P:425 See also list of Related Articles Essay of Dramatic Poesy, An lessay by Arms picture on, A:585 Drydenl Essex, Earl of, E:334 Dryden, John, D:327 Cromwell, Thomas, Ci:451 Shakespeare, William (Neoclassical Elizabeth I (Later years), E:213 criticism), S:325 **Eternal City** Esson, Louis (Australian playwright), Essay on Criticism, An (essay by Pope) Rome, R:361 E:334 Pope, Alexander, P:680 **Established Church** Essay on Man, An lessay by Popel Church of England, Cl:502 Pope, Alexander, P:680 Establishment, E:334 Essay on the Principle of Population Establishment, The lbook by Malthus] Power (systems of power), P:732 Birth control (The birth control move-Estate [law], E:334 ment). B:367 Ethane, E:334 Executor, E:414 Malthus, Thomas Robert, M:124 Ethylene, E:342 Essay on the Round Towers of Ire-Estate tax Taxation (Taxes on transactions), T:69 land (work by Petrie) H:400 Estates-General, E:334 Petrle, George, P:328 Essay Towards the ... Peace of Estéban Estevanico, E:335 Europe, The (book by Penn) Estenssoro, Victor Paz (president of Penn, William (Arrested again), P:261 Ethanedio Essays book by Emerson) Alcohol, A:237 Bolivia (The Revolution of 1952), **B:430** Emerson, Ralph Waldo, E:229 Ethanol Ester [chemistry], E:334 Essays, Articles and Reviews of Eve-Alcohol, A:237 Methanol, M:383 lyn Waugh, The [book by Waugh] Estevanico [Moorish explorer], E:335 Waugh, Evelyn, W:103 Essays in Idieness [book by Yoshida] Cibola, Seven Cities of, Cl:1 Esther [Biblical figure] Japanese literature (The medieval peried), J:64 Esther, Book of, E:335 Essays in Musical Analysis book by Haman, H:27 Tovey) Purim, P:865 Esther, Additions to the Book of Tovey, Sir Donald, T:313 Bible (The Apocrypha), 8:275 Essays of E. B. White [work by White] Esther, Book of (Old Testament), E:335 White, E. B., W:231 Essays of Elia (essays by Lamb) **Esthesiometer** Touch (Measurement), T:309 Lamb, Charles (His essays), L:33 Essays of Four Decades (work by Tate) Estienne family [French history] Book (The spread of printed books), Tate, Allen, T:66 Essays on Human Evolution (book by B:456 Keithl **Estimating** M:622 Keith, Sir Arthur, K:210 Addition, A:39 Essays on Literature and Ideas book Subtraction, So:376 by Wain] **Estivation** L:264 Waln, John, W:5 See Aestivation Physics (Developments in the study of Essen (Germany), E:331 Estonia, E:335 with pictures and maps (ight), P:476 Essence Baltic States, B:69 Relativity (Special theory of relativity), Extract, E:432 Flag picture on, F:208 R:191 Oil (Volatile oils), 0:420 Talling, T:17 Etherege, George (English dramatist), Perfume, P:280 World War II (The invasion of the So-Essence of Christianity, The book by E:335 viet Union), W:387 Drama (European drama: 1660-1800), Feuerbach) Estuary Feuerbach, Ludwig Andreas, F:65 D:294

Marsh, M:224

F:106

River (The mouth of a river), R:290

Film industry (Changes in Hollywood),

E.T.: The Extra-Terrestrial [film]

Essenes [religious group], E:331

1:231

Jews (The Hellenistic period), J:113

Library (Libraries of animal skins),

Essential oil

lapan (Ancestry), J:39 Eta Carinae Nebula [astronomy] Astronomy picture on, A:690 Etching (art), E:334 with picture Callot, lacques, C:42 with picture Glass (Etching), G:195 Graphic arts, G:300 Photoengraving and photolithography (Letterpress photoengraving), P:436 with picture Etchmiadzin imusic by Hovhanessi Hovhaness, Alan, H:333 Eternal City, The book by Cainel Caine, Sir Hall, C:15 Eternal Hope (book by Farrar) Farrar, Frederic William, F:28 Eternal Road, The [musical by Well] Weill, Kurt, W:141 Ethan Frome [book by Wharton] Wharton, Edith, W:214 Hydrocarbon (Aliphatic hydrocarbons), Hydrogenation, H:406 Irradiation, 1:405 Natural gas liquids, N:46 Environmental pollution (Scientific efforts), E:306 Wine (Fermentation), W:275 Ethelbert (king of Kent) Kent (History), K:221 Ethelred (English king) Kings and queens of Britain and Ireland (Wessex), K:261 Ethelwulf (English king) Kings and queens of Britain and Ireland (The Anglo-Saxon and Danish Kings), K:261 Ether (chemistry), E:335 Long, Crawford Williamson, L:377 Morton, William Thomas Green, Ether [physics], E:335 Light (The electromagnetic theory),

Ethical monotheism [religion]

Ethics [philosophyl, E:335

Aristotle, A:568

Ethics (Ethics and religion), E:336

Ethnocentrism [anthropology], E:342

Culture, Ci:492

Mores, M:605

Ethnography [anthropology], E:342 Culture (How people study culture), Ci:493 **Ethnolinguistics** Anthropology (Linguistic anthropologyl, A:451 Sapir, Edward, S:85 Ethnology, E:342 Ethnography, E:342 Sociobiology, So:10 **Ethnoscientist** Anthropology (Linguistic anthropology), A:451 Ethology (zoology), E:342 See also list of Related Articles Ethyl See Tetraethyl lead Ethyl acetate Butterfly (How to collect butterflies), B:690 Ethyl alcohol Alcohol (Ethanol), A:237 Aicoholic beverage, A:237 Hydrogen (Hydrogen compounds), H:405 Ethyl ether [chemistry] Ether, E:335 Ethylbenzene Petrochemicals (How petrochemicals are made), P:329 Ethylene, E:342 Butane and propane, B:676 Hormone (Other growth regulators), Hydrocarbon (Aliphatic hydrocarbons), H:400 Hydrogenation, H:406 Natural gas liquids, N:46 Petrochemicals, P:328 Polyethylene, P:661 Ethylene dibromide (EDB) Bromine, B:585 Ethylene glycol Alcohol (Ethanediol), A:237 Antifreeze, A:459 Glycol, G:216 Ethylene propylene rubber Rubber, R:437 Etiquette, E:342 Address, Forms of, A:40 See also list of Related Articles Etna, Mount See Mount Etna Eton College, E:344 Windsor,, W:27 Eton wall game [ball game], E:344 Etruscans, E:344 with map Sculpture (Etruscan sculpture), S:207 **Etruscan sculpture** Sculpture, \$:207 Etruscans [people], E:344 with pictures and map Alphabet (The Etruscans), A:283 Italy (End of the Roman Empire), 1:466 Rome, Ancient (History), R:377; picture

on R:380

Ettrick and Lauderdale (Scottish local

Sculpture, S:207

government district. E:346 Borders Region (Local government) R:467 Étude imusici, E:346 Etymology (language), E:346 Etymon Etymology, E:346 Euboea Greece (Central Greece and Eubora) Eucalypt forests, E:346 with pictures Eucalypts, E:347 with pictures Australia (Native plants), A:768 with map Eucalypt forests, E:346 Karri, K:200 Eucalyptus oil, E:351 with picture Eucalypts, E:347 with picture **Eucalyptus** See Eucalypts Eucharist religion Communion, Cl:238 Eastern Orthodox Churches (Services), F:48 Roman Catholic Church, R:336 with picture Transubstantiation, T:363 Euclid (Greek mathematician), E:352 Geometry (Axiomatic organization), G:95 (History) G:98 Hellenistic Age, H:144 Mathematics (Geometry), M:256; (The Greeks and Romansi M:257 Number theory, N:343 **Euclidean geometry** Geometry, G:96 Mathematics (Branches of mathematics) ics), M:256 Euclid's algorithm Algorithm, A:267 Eucoelomate Coelom, Ci:151 Eucumbene-Tumut tunnel Lake Eucumbene, L:23 Eudoxus of Cnidus (Greek mathematicianl Astronomy (Greek astronomy), A:887 Mathematics (The Greeks and Romans), M:257 Eugene III, E:352 Eugene IV, E:352 Eugene of Savoy, Prince [Austrian Blenheim, Battle of, **B:386** Succession wars (The War of the Spanish Succession), So:378 Eugene Onégin [ballet by Tchalkovsky Tchaikovsky, Peter Ilich, T:76 Eugene Onegin (poem by Pushkin) Pushkin, Alexander, P:868 Russian literature (Early romanticism) R:498 Eugenics (sciencel, E:352 Breeding, B:551 Environment, E:298 Galton, Sir Francis, G:17 Genetics, G:81

Heredity, H:165

Reproduction, R:233

263

Eugénie Marie de Montijo (wife of Na-European Community (EC), E:393 picture See also European Union poleon IIII, E:353 with portrait Cadmus, C:12 Europe, E:356 with pictures and maps European corn borer (insect) Eugenist See also list of Related Articles Corn borer, Ci:357 Eugenics, E:352 **European Court of Human Rights**, Euglena imicroorganism), E:353 with Africa (The beginnings of European E303 control), A:151 picture **European Court of Justice** Agriculture, A:168 **Euhedral** crystal European Union, E:398 Arabs (European domination), A:493 Crystal (Crystallization), Cl:469 **European curlew** Architecture (Early modern architec-Euhemerus [Greek scholar] Curlew, Ci:501 ture in Europe), A:532 with pic-Mythology (Euhemerus' theory), M:764 **European Currency Unit (ECU)** Eukarlotic cells [biology] European Union, E:395 Bird (Birds of Europe), B:321; (Endan-Cell (table: Terms used in the study of European drama (1660-1800) gered species) B:357 cells), C:293 Drama, D:294 Bubonic plague, B:605 Eulenspiegel, Till, E:353 with picture European Economic Area (EEA), E:394 Car (Major producing countries and Euler, Leonhard (Swiss mathematician), Common market, Ci:221 companies), C:162 with diagrams **European Economic Community** Christianity (The Middle Ages), C:485 Mathematics (Developments in the (EEC) Classicism, Ci:65 1700's), M:260 Europe (Toward European unity), E:391 Conservation, Cl:302 Euler's circle International relations (Treaties), 1:294 Continental divide, Ci:316 Set theory, S:274 See also European Union Football, Association, F:334 Eulogy Great Depression (Effects in Europe), European eel Funeral customs (The funeral), F:484 Eel, E:95 G:318 "Eulogy of Saint Colomba, The" **European Free Trade Association** Immigration (1820-1850. The great imlpoem by Forgail! (EFTA), E:394 migration begins), 1:36; (1900 . Re-Irish literature (Early Irish literature), Austria (Foreign trade), A:864 strictions on immigration) 1:36 Common market, Cl:221, Cl:223 Language (Indo-European), L:52; (table) Eumenides, The iplay by Aeschylusl Switzerland (Switzerland today), L:54 Aeschylus, A:108 So:502 Manufacturing, M:167 Eumenides [Greek mythology] Tariff (The changing role of tariffs), National parks, N:41 Furies, F:492 with pictures Petroleum (Europe), P:337 Eunuch, The [play by Terence] United Kingdom, History of the (De-Population (World population), P:684 Terence, T:153 cline of the empire), U:152 Prehistoric people (Early Homo sapi-**Euphorbiaceae** European geographical race ens). P:753 Spurge family, So:243 Africa, A:122 Railway, R:106 Euphrates River, E:354 with map Races, Human (The geographical-race Royal families, R:419 with pictures Iraq (The land), 1:343 theory), R:44 Sculpture (The European impact), Euphrosyne [Greek mythology] European languages S:205; (European sculpture) S:212 Graces, G:281 Aryans, A:617 with pictures Eurafrasia **European Launcher Development** Seven Years' War (In Europe), S:282 Asia (Land), A:644 Organization (ELDO) Space exploration (European nations), Eurafricans [people] Woomera, W:314 So:161 Swaziland (People), So:457 **European mantis** World, History of the (Medieval Eurasta Mantis, M:166 Europe), W:342; (The spread of Asia (Land), A:644 European minnow Western civilization) W:348 Europe (Land), E:370 Minnow, M:499 Europe, Council of, E:393 Eurasian badger European mistletoe Switzerland (Switzerland today), Animal picture on, A:387 Mistletoe, M:515 Badger, B:23 with picture So:502 **European Monetary System (EMS)**, **European Atomic Energy Community** Eurasian jay Jay, 1:72 (Euratom) **European Organization for Nuclear** Eurasian perch Monnet, Jean, M:567 Research, So:400 Nuclear energy (The first peaceful Perch, P:279 European Parilament Euratom uses), N:330 European Union, E:397 European bark beetle See European Union European Pharmacopoela (book) Dutch elm disease picture on, D:358 Eureka Stockade, E:354 with picture Pharmacopeia, P:358 European bee-eater Australia, History of, A:807 European Plain Bird picture on, B:321 Ballarat, B:46 Russia, R:477 Euripides [Greek dramatist], E:354 European bison European polecat Buffalo, B:623 Drama (Greek drama), D:287 Ferret, F:57 **European bittersweet** Greek literature (Drama), G:357 European porcelain Porcelain (History of porcelain), P:689 Bittersweet, B:372 Sophocles, So:44 Euro European bream European rabbit Bream, B:550 Kangaroo, K:186 with picture Rabbit, R:38

European brown bear

(ECSC)

Animal picture on, A:386

European Union, E:395

Monnet, Jean, M:567

European Coal and Steel Community

European raspberry

Raspberry, R:140

European robin

Marshall Plan, M:227

European Recovery Programme

Wallargo, W:24

Europa [astronomy]

diagrams

Jupiter (Satellites and ring), J:172 with

Europa [Greek mythology], E:355 with

Eurodollar, E:355

Water poliution (Effects), W:89

Robin, R:302 with picture Evaluation Keatsl European roller Archaeology, A:504 Keats, John (His work), K:205 Evelina, or a Young Lady's Entrance Roller, R:333 **Evangelical Lutheran Church European smelt** Finland (Religion), F:118 into the World (book by Burney) Smelt, S:496 **Evangelicals** Burney, Fanny, B:662 **European Southern Observatory** Anglicans (Episcopalians), A:368 Evelyn, John (English writer), E-104 Telescope (Recent developments in Evangeline (poem by Longfellow), Even-toed ungulate telescopes), T:116 E:402 Ungulate, U:25 European Space Agency (ESA), E:394 Acadia, A:18 Evening Space exploration (Solar probes), Caiuns, C:21 Michelangelo, M:435 So:144; (Freedom) So:157: (Euro-Longfellow, Henry Wadsworth, L:378 Sculpture (Michelangelo), \$:212 with pean nations) So:161 Evans-Pritchard, E. E. (British an-European Union, E:395 thropologist] **Evening bat** Austria (Foreign trade), A:864 Ethnography, E:342 Bat (Kinds of bats), B:148 Cold War (The Cold War continued), Evans, Dame Edith (British actress), Evening News [newspaper] E:402 Edinburgh (Transport and communic Common market, Ch223 Evans, George Essex [Australian writer] tions), E:77 De Gaulle, Charles André Joseph Australia, Literature of (Other poetry), Evening primrose, E:404 Marie (The Fifth Republic), D:87 Evening star [astronomy], E:404 Denmark (Postwar years), D:117 Evans, George William (British ex-Evenings on a Farm near Dikanka Europe (Toward European unity), E:391 plorerl, E:402 lwork by Gogol) Evans, Gil (American jazz musician) France (Foreign trade), F:410; (France Gogol, Nikolai, G:228 Jazz (Cool jazz), J:77 under De Gaulle) F:417 Eventing Germany (Economy), G:127 Evans, Mary Ann Horse, H:301 with picture Greece (Politics), G:333; (Foreign trade) See Ellot, George Everest, The Unclimbed Ridge book Evans, Oliver [American inventor], by Bonington] Greenland (History), G:363 E402 Bonington, Chris, B:449 International relations, 1:293 Car (The steam car), C:166 **Everest, Mount** Monnet, Jean, M:567 Steam engine (Modern steam en-See Mount Everest Norway (The 1970's), N:302 gines), So:309 Everest, Sir George (British official) Parliament, European, P:192 Evans, Sir Arthur John (British archae-Mount Everest, M:657 Tariff (Modern tariff policies), T:45 ologistl, E:402 Everglade kite United Kingdom, History of the (De-Knossos, K:306 Kite, K:290 with picture cline of the empire), U:152; (The Evans, Sir Geraint [Welsh barttone], Everglades (Florida), E:404 with map United Kingdom today) U:153 E:402 Florida (Land), F:233 European viper [snake] Evans, Theophilus (Welsh writer) Evergreen, E:404 Adder, A:34 with pictures Welsh literature (Later literature), See also list of Related Articles Europe [ship] Forest picture on, F:344; (Temperate Ship (Packet ships), \$:370 with picture evergreen forests) F:348; (Borea Evans, Walker (American photogra-Euryale [Greek mythology] forests) B:346; (Mountain forests) pherl, E:402 Gorgons, G:258 Agee, James, A:158 M:349; picture on P:350 Euryanthe [opera by Weber] Photography (The photographic revo-Plant (Gymnosperms), P:543 with pic Weber, Cari Maria von, W:127 lution), P:463 tures Eurydice [Greek mythology], E:401 Evaporated milk, E:403 Pruning, P:821 Orpheus, 0:506 Condensed milk, Cl:274 Tree (Needleleaf forests), T:383 with Eurypterus **Evaporating pond pictures** Prehistoric animal picture on, P:743 Tree (Needleleaf trees), T:374, T:386 Salt (Salt from the sea), S:56 Eusebius [Christian historian] Evaporation, E:403 with diagrams with pictures History (The development of historical Everlasting Mercy, The work by Boiling point, B:423 writing), H:225 Cloud, Cl:109 Masefield] Eustace and Hilda [book by Hartley] Heat (Changes in state), H:120 Masefield, John, M:241 Hartley, L. P., H:70 Evert, Chris [American tennis player, Ocean (Composition), 0:388; (Miner-Eustachian tube, E:401 with picture als) M:390 E:405 Adenoids, A:46 Steam, So: 307 Tennispicture on, T:149 Every Man in His Humour play by jot Cleft palate, Cl:72 Sublimation, So:367 Ear (The middle ear), E:7; (Diseases) Vapour, V:314 son] Evaporator Jonson, Ben, J:140 Mastoid, M:251 Everyman (play by Hofmannsthall Dehumidifier, D:89 with diagram Euthanasia, E:401 Hofmannsthal, Hugo von, H:241 Maple syrup, M:193 Evesham, Battle of (English history) Death (The right to die), D:59 Refrigeration (Gas refrigerator);, R:185; Hereford and Worcester (History), Medicine (Legal and ethical ques-(The electric refrigerator) R:185 tions), M:319 Evatt, Herbert Vere | Australian states-H:177 **Euthenics** man], E:403 Eviction [law], E:405 Eugenics, E:353 Australia, History of (The Petrov affair), Evidence, E:405 Eutrophication, E:401 A:822 Debate, D:62 Police laboratory (How evidence is Environmental pollution (Water pollu-Eve (Biblical figure) tion), E:303 Adam and Eve, A:29 handled), P:644 Phosphorus, P:432 Eden, E:75 Evil eye, E:405

"Eve of St. Agnes, The" [poem by

Amulet, A:345

Physical fitness, P:470

Running, R:458 with picture Cottonwood, Ci:390 W:281 Space exploration (Microgravity), Poplar, P:681 Evil spirit So:135: (Recreation) So:137 Exchange rate, E:413 Devil, D:145 Weight control (Physical inactivity), See also list of Related Articles Exorcism, E:148 W:134; (How to control obesity) Balance of payments (Balance of pay-Evolution, E:406 with pictures ments and exchange rates), B:36 See also list of Related Articles Exercitationes de Generatione book Devaluation, D:144 Adaptation, A:32 by Harveyl Fconomics (World finance), E:64; table Anaximander, A:351 Harvey, William, H:73 Animal (The origin and development on E:65 Exeter (England), E:414 with picture Gold standard, G:239 of animals), A:411 Exchequer (British government), E:414 Devon, D:146 Anthropology (Early anthropological Devon (Places to visit), D:147 Excise (tax), E:414 thought), A:453 Taxation (Taxes on transactions), T:69 **Exeter Book** Biology, B:307 Riddle, R:272 **Excited atom** Bird (The development of birds), B:356 Exeter, Marquess of (British amateur Electricity (Effects of electricity), E:170 with pictures athletel, E:415 with picture Darwin, Charles R., D:39 Exhalation Extinct animal (Types of extinction), **Excited state** Respiration (The process of breathing), Atom (Electron energy levels), A:727 E:432 R:239 Laser (The nature of atoms), L:72 with Haeckel, Ernst Heinrich, H:5 **Exhaust stroke** diagram Heredity, H:165 Diesel engine diagram on, D:169 Light (Sources of light), L:257 Human being (Human physical devel-Petrol engine, diagram on, P:333 Exciter opment), H:348 **Exhaust system** Electric generator (How AC generators India, Philosophy of (Evolution of the Car (The exhaust system), C:156 work), E:148 world), I:134 Petrol engine, P:334 Electric power (Sources of electric Invertebrate, 1:322 **Exhaust trail** power), E:157 with diagram Life (Modern theories), L:249 Contrail, Ci:317 Exclamation mark (punctuation), E:414 Mammal (The evolution of mammals), **Exhaust velocity** Punctuation, P:856 M:136 Space travel, S:126 **Exclamatory sentence** Mutation, M:747 Sentence (Sentence classifications), Exhibition Natural selection, N:48 Fair, F:7 S-257 Palaeontology, P:101 Film industry, F:95 Exclusive economic zone Prehistoric animal, P:749 Museum, M:717 Fishing industry, F:187 Prehistoric people, P:750 with pic-Exile (punishment), E:415 High seas, H:199 tures Existential theory (psychology) Ocean (Who owns the ocean), 0:402 Races, Human (Systems of racial classi-Abnormal psychology (Theories of ab-Territorial waters, T:159 fication), R:43; (How human popunormal psychology), A:12 Exclusives [Australian settlers] lations develop and change) R:47 Existentialism, E:415 Wentworth, William Charles, W:153 Reproduction, R:223 American literature (Fiction and other Excommunication, E:414 Reptile (The evolution of reptiles), prose), A:320 City (The people), Ci:28 R:233 Beauvoir, Simone de, B:175 Middle Ages (The power of the Scopes trial, S:154 Camus, Albert, C:69 church), M:448 Tellhard de Chardin, Pierre, T:99 Dostoevsky, Fyodor, D:271 Evren, General Kenan [Turkish political Excretion French literature, F:450 See Elimination leaderl Heidegger, Martin, H:133 Excursion, The [poetry by Wordsworth] Turkey (Recent developments), T:465 Jaspers, Karl, J:67 Wordsworth, William, W:315 Evtushenko, Evgeny Kierkegaard, Søren Aabye, K:246 Execution [civil law] See Yevtushenko, Yevgeny Novel, N:314 Debt. D:63 Philosophy (Philosophy in the 1900's), **Execution** [criminal law] Ranching (Sheep station), R:133 Capital punishment, C:144 Sheep, S:338 Sartre, Jean-Paul, S:93 Executioner's Song, The book by

Epsom and Ewell, E:314 Ex post facto [law], E:413

Examinations Testing, T:163 Excalibur, E:413

Arthur, King, A:609 Excavation [archaeology]

Archaeology (Excavating sites), A:502 Culture (How people study culture),

Witchcraft (The powers of witches),

Excelsion

Excavation [construction]

Building construction (Constructing a skyscraper), **B:628** Explosive, E:430

Excavations at Ur. A Record of 12 Years' Work [book by Woolley] Woolley, Sir Leonard, W:313

Aerobics, A:70 Dog, D:238

Maileri

Executive Board

UNESCO, U:25

Executive president

President, P:764

Executor [law], E:414

Estate, E:330

Exercise

Probate, P:793

Mailer, Norman, M:69

Health, H:95

Isometrics, 1:426 Jogging, J:123

Muscle (Skeletal muscles), M:713

Will (Administration), W:254

Exit poli

Public opinion poil (History), P:841 Exmoor [England], E:415

Devon (Land regions), D:147 Somerset (Land regions), So:38;

(Places to visit) So:38 Exobiology, E:415

Biology, B:304 Life (The search for life on other planets), L:250 Exocarp [botany]

Fruit (How botanists classify fruits), F:474

Exocrine gland Gland, G:183 Human body (The endocrine system),

H:358

Naturalism (Naturalism in fiction), N:48

Zola, Émile, Z:501

Exodus [Old Testament], E:416 Experimental Physiology book by Exponent Algebra (Terms used in algebra) jews, J:113 Bernard] Moses, M:631 Bernard, Claude, B:258 Decimal system (The decimal system Passover, P:210 **Experimental test pilot** and number words), D:68 Pentateuch, P:266 Test pilot, T:161 **Experimental theatre** Exogamy Logarithms, L:360 Marriage (Marriage in other cultures), Numeration systems (The decimal sys-Drama. D:300 Experimentation tem), N:344 Exophthalmos Power (Arithmetic), P:731 Psychology, P:829 Goitre, G:229 **Expert system Export Pipeline** Thyroid gland (Overactive thyroid), Artificial intelligence, A:611 Pipeline (Major pipelines of the T:235 Computer (Computers of the future), world), P:517 Exorcism, E:416 CE266 Export subsidy Exoskeleton **Expert witnesses** Tariff (Why tariffs are levied), T:44 Arthropod, A:607 Police laboratory (Presenting the evi-Exports and imports leconomicsl. Beetle, B:196 dence), P:645 Butterfly (The bodies of butterflies), Expiration Arabs (Trade), A:492 B:686 Diaphragm, D:156 Balance of payments, B:36 Crayfish, Cl:418 Lung (Gas-exchange in the lungs), Customs, Ci:507 Crustacean, Cl:465 L:415 Economics (World trade), E:64 Grasshopper (The body), G:304 Respiration (The process of breathing), Free trade, F:432 Insect (The bodies of insects), 1:248 R:239 Gross domestic product (Measuring Moulting, M:654 Exploration, E:417 with pictures and the GDP), G:382 Prehistoric animal (Early forms of animaps International trade, I:297 mal life), P:744 See also list of Related Articles Queen's Awards for Export and Tech-Skeleton (Animal skeletons), S:461 Gas (Exploring for gas), G:51 nology, Q:12 with picture Exosphere [air] Geography, G:89 with picture Tariff (Offsetting unfair trade prac-Air (The thermosphere), A:187 Ocean (Exploring the ocean), 0:398 tices), T:44 **Exotic plant** Pacific Ocean, P:15 Trade, T:324 Botany (table), B:481 Petroleum (Exploring for petroleum), Exposition Exotoxin Classical music (Fugue), Ci:56 Toxin, T:320 Drama (The structure of drama), D:266 Portugal (The age of exploration), Expandable balloon P:705 Fair, F:7 Balloon, B:61 with picture Space exploration, So:128 Fugue, F:481 Expansion, E:416 with diagram World, History of the (The great age of Exposition of the System of the Heat (Changes in size), H:119 exploration), W:350 World (book by Laplace) **Expansion joint** Exploration geochemistry Laplace, Marquis de, L:62 Heat (Changes in size), H:119 Exposition (kinds of discourse) Geochemistry, G:86 Expansionism Exploratory method Literature, L:311 Imperialism, I:45 Statistics (Analysing the data), So:303 Exposure Expatriation Explorer Photography, P:447 Citizenship, Cl:16 Exploration, E:417 Exposure meter **Expectations theory** Photography (Lighting equipment, Explorer [satellite] Inflation (Theories about the causes of Satellite, Artificial (Important satellites), P:450 inflation), 1:230 S:96; (History) S:98 Express repeal Expensive People (book by Oates) Space exploration (The space race be-Repeal, R:223 Oates, Joyce Carol, 0:376 gins), So:141; (Early unmanned ex-Expression (music) Experience and Nature book by plorations) So:142 Music diagram on, M:734 Expression of the Emotions in Man Dewey! Explosion and Animals, The Ibook by Dar Dewey, John, D:150 Dust explosion, D:358 Experiment Explosive, E:430 win] Darwin, Charles Robert (Darwin's the? Animal experimentation, A:417 Fallout (How fallout is produced), F:17 Drug (Creating a new drug), D:316 with diagram ries), D:39 Emotion (Early theories about emowith picture Fire (Kinds of fire), F:125 Magnetism, M:58 with diagrams Fuse, F:509 tion), E:230 Psychology, P:829 Explosive, E:430 Expressionism, E:431 Science (Conducting experiments), See also list of Related Articles See also list of Related Articles Bomb, B:433 Austria (Painting), A:861 Experiment in Autobiography book Barlach, Ernst Heinrich, B:111 Dynamite, D:365 by Wells] Drama, D:299 with picture Gunpowder, G:429 Film industry (Filmmaking in Europe) Wells, H. G., W:148 Nitroglycerin, N:223 Experimental geology Nobel, Alfred Bernhard, N:225 F:101 Geology, G:93 **PETN, P:327** German literature, G:110 Germany (Painting and sculpture), Experimental medicine Picric acid, P:488 Medicine (Greece and Rome), M:314 Plastic explosive, P:576 Munch, Edvard, M:700 with picture Experimental Novel, The book by Quarrying (Explosive method), Q:8 Opera (The search for new forms), Zolal **Explosive bonding**

Welding (Deformation bonding),

W:143

0:466

Painting, P:80

Eve lanatomyl, E:435 with pictures

M:643

Evetooth

Protozoan (Structure), P:818

Teeth (Permanent teeth), T:90

South Africa, Art of, So:71 See also list of Related Articles Extra-tropical storm Expressive criticism AIDS (Opportunistic illnesses), A:179 Criticism (Kinds of literary criticism), Hurricane (Movement), H:388 Baby (The first month), A:6 Extract, E:432 CI:442 Bee. B:185 Meat extract. M:299 Expressive riot Beetle (Eyes), B:196 with picture Perfume, P:280 Riot. R:286 Bird (Sight), B:352 with pictures **Extraction** unit Extempore speech Blind spot, B:387 Gas (Transmitting and distributing Public speaking (Outline), P:843 Blindness, B:388 gas), G:51 Extended family Butterfly, B:686 Africa (Marriage and the family), A:131 Extractive Cat (Head), C:244 with pictures Wood (The composition of wood), Arabs (Family life), A:491 Colour (How we see colour), Cl:193 Family Isociologyl, F:19 with picture W:300 Compound eye, Cl:251 Indian, American (Marriage), 1:138 **Extractive industry** Conjunctivitis, Ci:286 Industry (Other systems of classifica-Kyrgyzstan (People), K:348 Contact lens, Cl:313 with picture tion), I:224 Latin America (Family life), L:81 First aid (Eye injury), F:146 **Extractive metallurgy** Sri Lanka (People), So:256 Fish (Sight), F:171 Engineering, E:257 Turkmenistan (People), T:466 Frog (Senses), F:465 Metallurgy, M:375 Uzbekistan (People), U:293 Glasses, G:202 with pictures Extradition, E:433 Vietnam (Way of life), V:375 Grasshopper (The body), G:304 Extragalactic nebulae Extender [paint] Horse (Senses), H:294 Nebula, N:64 Paint, P:23 Human body picture on, H:350 **Extrajudicial confession** Extensor Insect (The bodies of insects), I:248; Confession, Ci:277 Muscle, M:714 picture on 1:252 Extrasensory perception, E:433 **Exterior ballistics** Laser (Heating), L:71; picture on L:69 Clairvoyance, Ci:50 Ballistics, B:59 Marfan syndrome, M:203 Mind reading, M:480 Exterminating trap Moth (The head), M:639 Parapsychology, P:171 Trapping, T:367 with pictures Ophthalmology, 0:476 Psychical research, P:826 External auditory canal Owl (Appearance), 0:528 Telepathy, T:104 Ear (Parts of the ear), E:7 Perception (Receptors), P:277 Extraterrestrial Intelligence, E:434 External-combustion engine Reptile (Sense organs), R:232 with pic-Exobiology, E:415 Engine, E:253 Extraterritoriality (law), E:434 Heat (Changing heat into motion), Tears, T:80 with picture Extravehicular activity (EVA) H:120 Trachoma, T:323 Space exploration (Space exploration Internal combustion engine, 1:288 Eve (botany) terms), So:130; (Leaving the External fertilization Tuber, T:432 spacecraft) So:138 with pictures Fertilization, F:59 Eve (weather) Extreme ultraviolet rays Reproduction (How reproduction has Hurricane, H:388 Telescope (Ultraviolet telescopes), evolved), R:224 Eye agate T:115 External respiration Agate, A:155 Extreme unction Respiration, R:239 Eye bank, E:445 Anointing of the sick, A:425 External senses [anatomy] Blindness (Corneal opacity), B:388 Extrinsic motivation Senses, S:255 Eye muscle (anatomy) Learning (Motivation), L:138 Extinct animal, E:432 Eye (Parts of the eye), E:435 Extrovert, E:434 Animal (Special feature), A:397; (Why Eye of the Storm, The [book by White] jung, Carl Gustav (His theories), J:168 species become extinct) A:411 White, Patrick, W:232 Extrusion, E:434 Bird, B:356 with pictures Eve of the Wind, The book by Scott Aluminium (Extruding), A:294 Conservation (Wildlife conservation), Scott, Sir Peter, 5:174 Brass (Making brass), B:524 Ci:297 Eyed click beetle Brick (Stiff-mud process), B:557 Dinosaur (Why dinosaurs died out), Beetle *picture on,* **B:199** Ceramics (Making ceramics), C:326 D:181 Eyelld [anatomy] Copper (Extruded copper), Cl:344 Endangered species, E:241 Eye, E:435 Die and diemaking, D:167 Fossil, F:368 with pictures Eyeptece Iron and steel (Extruding), 1:397 Mammal (The future of mammals), Microscope pictures on, M:441 Plastics, P:581 Telescope (Optical telescopes), T:113; M:138 Rubber, R:436 Prehistoric animal, P:743 with picpictures on T:114 Soybean (Soymeal), So:125 Eyes of the Dragon, The (book by tures; (Evolution and extinction) P:749 Extrusive rock King) Igneous rock, 1:28 Reptile (The evolution of reptiles), King, Stephen, K:255 R:233 Rock, R:307 Eyeshine Wildlife conservation, W:251 Exxon Valdez [ship] Cat (Head), C:244 Extinction Alaska (History), A:227 Eyespot Disaster (Accidents), D:188 See Extinct animal Eye (Eyes of animals), E:444 Eyadema, Gnassingbe ipresident of Extinction of Poverty, The lbook by Moth picture on, M:639; (Giant silkworm moths and royal moths) Napoleon III) Togol President (Unlimited presidency), Napoleon III (Early life), N:23

P:766 Togo (History), T:276

See Van Eyck, Jan

Eyck, Jan van

Extinction [book by Ba Jin]

Ba Jin, B:2

Extortion, E:432

Blackmail, B:380

Bribery, B:557

Eyre Peninsula Eyre Peninsula, E:446 Eyre, Edward John [Australian writer] Australia, Literature of (Early prose), A-R30 Eyre, Edward John [British explorer], E:445 with map and portrait Lake Eyre, L:23 Wylie, W:426 Eyre, Lake Lake Eyre, L:23 Eagle (Nests), E:3 Eysenck, Hans [British psychologist], E:446 Evvan Islamic art (Madrasahs), I:419 Ezekiei (Biblical figure) Ezeklei, Book of, E:446 Jews (Foreign domination), J:113 Ezekiel, Book of Old Testamentl, E:446 Ezra [Biblical figure] Ezra, Book of, E:446 Ezra, Book of [Old Testament], E:446 F (letter), F:1 F-11 [chemical] Fluorocarbon, F:275 F-12 (chemical) Fluorocarbon, F:275 F clef Music (Pitch), M:732 with picture Photography (Aperture size), P:447 with picture f-stop Photography (Aperture size), P:447 with picture Fa Ngoun (Laotian political leader) Indochina (A new kingdom), 1:181 Faber, Eberhard (American businessman], F:2 Fabergé, Peter Carl (Russian goldsmith], F:2 with picture Decorative arts picture on, D:76

Fabian Society Fabianism, F:2 Shaw, George Bernard (Early life), Socialism (The international socialist movement), So:9 Fabianism, F:2 Fable, F:2 Allegory, A:272 Fiction (History), F:69 Folklore (Folk tales), F:289 La Fontaine, Jean de, L:15 Literature (Forms of literature), L:312 Literature for children, L:321 Fables in Slang [book by Ade] Ade, George, A:42 Fables of Aesop, The [book by Jacobs] jacobs, Joseph, J:8 Fables [book by Arnold Lobel]

Literature for children, L:325 Fables [book by La Fontaine] La Fontaine, Jean de, L:14 Fables [book by Powys] Powys (Theodore Francis), P:733 Fabliaux [story] French literature (Early French literature). F:445 Fabre, Jean Henri Casimir (French naturalistl. F:3 Fabric Textile, T:169 Wool (Making fabric), W:312 with picture Fabric fund Cathedral (Cathedral finances), C:261 Fabricating industry Industry (Other systems of classification), f:224 Fabricating ingot [metallurgy] Aluminium (Casting the molten aluminium), A:292 Facade [architecture] Architecture (table), A:515 Facade [music by Walton] Sitwell, Dame Edith, S:458 Walton, Sir William, W:29 Face [anatomy], F:3 Head, H:92 Face brick Brick (Building bricks), B:557 Face lifting [medicine] Plastic surgery (Methods of plastic surgery), P:576 Facet Diamond (How diamonds are cut to make jewels), D:154 Gem (Cutting and polishing), G:71 with pictures Lapidary, L:61 Facey, Albert [Australian author], F:3 Facial area (anatomy) Head, H:93 Facial bone Face, F:3 Skuli. S:474 Facial disc Owl (Appearance), 0:528 Facing [sewing] Sewing, **S:287** Facioscapulohumeral muscular dys-Muscular dystrophy, M:717 Facsimile, F:3 with picture Post office (Post office services), P:711 Facsimile machine Communication (In business and in-

Telephone (Private lines), T:108

Factorial notation [mathematics]

Algebra (Other definitions), A:256

Permutations and combinations (By

using symbols and formulas).

Numeration systems (The decimal sys-

Factor [mathematics], F:4

tem), N:344

P:289

Faeroe Islands See Faroe Islands Fahd Iking of Saudi Arabial, F:6 Royal families (Saudi Arabia), R:421 with picture Saudi Arabia (Recent developments) S:113 Fahrenheit 451 (book by Bradbury) Bradbury, Ray, B:505 Fahrenheit temperature scale Celsius scale, C:307 Fahrenheit, Gabriel Daniel, F:6 Heat (Temperature and heat), H:117 Temperature, T:136 dustry), Cl:228 T:216 Electronics, E:184 Facsimile, F:3 with picture

Thermometer (Temperature scales), Fahrenheit, Gabriel Daniel (German physicistl, F:6 FAI See Fédération Aéronautique Interna tionale Falence [pottery], F:6 with picture Fainting (disorder), F:6 with picture First aid, F:146 Fair, F:7 Fair dealing Copyright (Users' rights), Cl:346

Series, S:269

Factories Act of 1961

Factoring [mathematics]

Australia, History of, A:810

United Kingdom, History of the (Social

developments), U:145

See also list of Related Articles

Industrial Revolution (Life during the

World, History of the (The Industrial

Whale (Modern whaling), W:212 with

Australia, Literature of (Short storles),

Revolution), W:354 with picture

Industrial Revolution), I:213

Factory acts, F:5

Algebra, A:257

Factory Act [1873]

Factory acts [law], F:5

Factory, F:5 with picture

City (Economy), Ci:32

Manufacturing, M:167

Factory ship

picture

A:832

Faculae (light)

cianl, F:6

Allegory, A:272

R:127

Fado (music)

Mass production, M:245

Fact'ry 'Ands (story by Dyson)

Facts, The book by Rothl

Sun (Sunspots), So:416

Portugal (Arts), P:701

Alimentary canal, A:269

Dysentery (Spread), D:366

Spenser, Edmund, So:213

Faerle Queene, The poem by Spensen

Poetry (Renaissance poetry), P:615

Raleigh, Sir Walter (His expeditions),

Fadden, Sir Arthur [Australian politi-

Roth, Philip, R:407

See Epilepsy

Meteor, M:380

Fallopian tube (biology), F:16

Embryo (Fertilization), E:226

Falling star

Fairy tale

Falry, F:9

Tern, T:157

Fairy tern

Anderson, Hans Christian, A:352

Grimm's Fairy Tales, G:377

Reproduction, Human (in females), Fallot, Étienne-Louis [French doctor] Heart (Blockage of the blood flow), Fallout [radioactivity], F:16 with picture Nuclear weapon (Residual nuclear radiation), N:338 Waterfall, W:93 Locust (plant), L:357 False Antipathy, The play by La Chaus-Drama (France), D:295 Remote sensing, R:213 with picture False rib lanatomy Dentistry (Dental prosthetics and prosthodontics), D:120 Teeth (Dental decay), T:93 False vampire bat Bat (Kinds of bats), B:148 Falstaff (literary figure), F:18 Drama picture on, D:284 Shakespeare, William (Henry IV), S:313; with picture; (Merry Wives of Windsor, The) S:316 with pic-Falstaff, Sir John [literary figure] Welles, Orson, W:145 Famechon, Jonny [Australian boxer] Boxing (Boxing in Australia and New Zealand), B:498 Familiar Quotations (book by Bartlett) Bartlett, John, B:121 Familiar Studies of Men and Books [book by Stevenson] Stevenson, Robert Louis (Stevenson's writings), So:322 Family, The Isculpture Marisol, M:211 Family (biology), F:18 Animal (The scientific classification of animals), A:380 Classification, Scientific (How organisms are classified), Cl:66 Family [sociology], F:19 with pictures See also list of Related Articles Baby, B:4 Child, C:403 City (People), C:30 Drug abuse (Effect on family, friends, Astronomy (The nighttime sky), A:686 and work), D:322 Handicapped (In family life), H:45 Indian, American (Family life), 1:138

Juvenile delinquency (Family relationships), J:176 Marriage, M:217 Parent, P:173 Village, V:393 Women's movements (Impact of women's movements), W:298 Family Compact [Canadian history] Canada, History of (Growing discontent). C:100 Family court Divorce (Grounds for divorce), D:214 Family day-care home Day care (Types of day care for children), D:51 Family law Law (Branches of law), L:110 Family name Name (History of family names), N:10 Family planning Birth control, B:367 **Family practice** Medicine (The specialities), M:311 Family relationships Adolescent, A:53 Family, F:20 Family Reunion, The work by Eliot Eliot, T. S., E:211 Family therapy Family (Treatment of family problems), F:22 Psychotherapy (Group therapy), P:832 Family tree Genealogy, G:75 Pedigree, P:241 Family (book by Ba Jin) Ba fin, B:2 Famine, F:24 Great Famine, G:321 with picture Ireland, History of (The Great Famine), I:374 with picture on I:376 Famine (book by O'Flaherty) O'Flaherty, Liam, 0:417 Famous Men [book by Jerome] Jerome, Saint, J:86 Fan, F:25 with picture Fan Si Pan [mountain] Vietnam (The Northern Highlands), V:377 Fan worm [sea animal] Animai picture on, A:394 Fan, Alluvial igeographyl See Alluvial fan Fancy Free [ballet by Robbins] Robbins, Jerome, R:300 Fancy sapphire Ruby, R:441 Fancy weave Weaving, W:125 Faneuil, Peter [American merchant], F:26 Fang [people] Equatorial Guinea (People), E:315; (History) E:316 Gabon, G:3 Fang [zoology]

Animal picture on, A:402

Dog (Body structure), D:222

Snake (Fangs and venom glands),

\$:509 with picture . Snakebite, S:517 Spider (Chelicerae), So:219; pictures on So:220 **Fannings** Tea (Grades of tea), T:79 Fanon, Frantz Omar [Algerian author], Fanshawe (book by Hawthorne) Hawthorne, Nathaniel, H:88 Fantail pigeon Pigeon picture on, P:496 Fantasia [music], F:26 Classical music (Free form), C:60 "Fantastic suitcase" [illusion] Magician picture on, M:48 Fantastic Tales (book by Hoffmann) Hoffmann, Ernst T. A., H:240 Literature for children, 1:321 Fantasy game Game, G:24 Fantasy on Japanese Woodprints [music by Hovhaness] Hovhaness, Alan, H:333 Fantasy variations Phenomenology, P:361 Fantin-Latour, Henri [French painter] Manet, Edouard picture on, M:152 See Food and Agriculture Organization Fagih Iran (Government), 1:331 Far East (region, Asia), F:26 Cat (History), C:254 Cold War (The Cold War continued), Ci:160 Exploration (East-West contact), E:418: (East contact resumes) E:419 Library, L:227 Orient, 0:497 Southeast Asia, So:120 See also Asia Far from the Madding Crowd book by Hardy) Hardy, Thomas, H:59 **Far West Home** Drummond, Stanley, D:325 Farabundo Martí National Liberation Front (FMLN) El Salvador (History), E:224 Farad (unit of measure), F:26 Capacitance, C:133 Faraday, Michael [British physicist], F:26 Benzene, B:241

Electric generator (Basic principles), E:146 Electric motor (History), E:156

Electricity (Electromagnetism), E:172 Electrolysis (Laws of electrolysis), E:175

Electromagnetism, E:177 Energy supply (The industrial revolution), E:250 Gas (History), G:59

Invention (The Industrial Revolution), 1:317

Physics (Developments in the study of electricity and magnetism), Pare Radio (Early development), R:80 Rubber (The chemistry of natural pubber), R:438

Farce

Comedy (with picture), Cl:214 Drama (Comedy), D:285; (Medieval drama) D:288 French literature (Early drama), F:445 Humour, H:371

Farcy Idiseasel Glanders, G:184 Fardd, Eben | Weish poet

Welsh literature (Later literature). W:151 Fareham (England), F:27

Farewell to Arms, A (work by Heming way). Hemingway, Ernest (Rise to fame),

H:148 Novel (New directions in the novel),

H:313 Farewell to Sartre, A [book by Beauvairl

Beauvoir, Simone de, B:175 Fargo, William George (American businessman], F:27

Wells, Fargo & Company, W:148 Farigoule, Louis Romains, Jules, R:335

Farjeon, Eleanor (British author), F27 Farley, James Aloysius (American polticianl, F:27

Farm and farming See Agriculture Farm Cove (Australia), F:27

Farm equipment

Agriculture, A:173 with pictures Farm machine

Agriculture (The invention of new ism equipment), A:173 with pictures Technology picture on, T:83

Farm pet Pet, P:320 with picture Farman, Henri (English aviator) Aviation (Beginnings), A:882; (The fid airlines) A:883

Farman, Henri (English flier) Aeroplane (Other pioneer planes and

fliers), A:80 Farmer

See Agriculture Farmer Boy book by Wilder Wilder, Laura Ingalis, W:250 Farnaby, Glies English composer, F Farne Islands, F:28 Northumberland (Places to visit), Nation Farnese Bull (sculpture), F:28 with plc

ture Farnham Castle [England]

Surrey (Places to visit), So:444 Farnsworth, Philo Taylor American inventor], F:28 Faroe Islands, F:28 with map

Europe picture on, E:358; (table) Es Whale (The future of whales), W213

Farouk I

Russian literature (Early realism), R:499

formed), P:339 with picture

San Andreas Fault, S:65

Horse (Showjumping), H:300

Fault (sports)

Turgenev, Ivan, T:452 Fashion writer Farquhar Islands British Indian Ocean Territory, B:580 Father's Day, F:35 Clothing, Ci:108 Farquhar, George (English dramatist), Fathom [unit of measure], F:35 Fast, F:32 Fathometer (instrument), F:35 with pic-Hinduism, H:212 F:28 Islam (Customs and ceremonies), I:415 Drama (European drama: 1660-1800). Shipwreck, S:387 Fast breeder reactor Fatigue (disorder), F:35 Nuclear energy (Nuclear fission), N:321 Theatre picture on, T:200 Lactic acid, L:11 Farrar, Frederic William (English cler-Potassium, P:718 Myalgic encephalomyelitis, M:748 Fast nova gymanl, F:28 Fatique Study (book by Glibreth) Farrell, James T. (American writer), Nova, N:310 Gilbreth, G:158 Fast pitch F:28 Fatique, Metal Softball (Types of softball), So:18 American literature (Realist fiction), Alloy (Other alloys), A:278 Fast-service restaurant A:318 Metal fatique, M:375 Restaurant, R:242 Farrer, William [Australian agricultural-Fátima [Portugal], F:36 Fastening |st|, F:29 Fatima (daughter of Muhammad), F:36 Woodworking, W:307 Farrier Fatimid dynasty, F:36 Fastening tool Blacksmith, B:381 Muhammad (Early life), M:685 Woodworking pictures on, W:308 Farriery Muslims (Division of Islam), M:743 Faster! [book by Stewart] Country crafts, Ci:393 Fatimah Hashim, F:36 Stewart, Jackie, So:323 Farrow (zoology) Fatimah, Hajjah, F:36 Fasti [poem by Ovid] Pig. P:494; (table) P:491 Fatimid dynasty, F:36 Ovid, 0:526 Farsi [language] Cairo (History), C:20 Fastnacht [custom] Iran (Language), I:334 Egypt (Muslim rule), E:115 with map Mardi Gras, M:202 **Farsightedness** Muslims (Division of Islam), M:743 Shrove Tuesday, S:404 Eye (Defects of the eye), E:439 with di-Fatinitza (music by Suppé) Fat. F:33 with diagrams agram Suppé, Franz von, So:430 See also list of Related Articles Glasses (Prescription glasses), G:202 **Fatty acid** Blubber, B:404 Longsightedness, L:382 Fat (Nutritional importance), F:33 Butter, B:678 Farther Pomerania Food (Producing energy), F:295 Cholesterol (Factors that cause high Pomerania, P:664 Lard, L:65 cholesterol levels), C:479 Farthest Shore, The (book by Le Guin) Metabolism (Catabolism), M:374 Diet (Normal diet), D:169 Le Guin, Ursula, 1:157 Nutrition (Fats), N:363 Food (Producing energy), F:295 Farthing [money], F:29 with picture Pork, P:691 Heart (Risk factors), H:104 Penny, P:264 Tallow, T:17 Lipid, L:302 Farthingale Fatty streak Liver (Digestion and use of food), Clothing (The Renaissance), Cl:102 Arterioscierosis (Causes), A:605 L/334 Faruk I [king of Egypt], F:29 Faucet [plumbing] Lymphatic system (Absorption of fats), Egypt (Republic), E:117 See Tap L:426 Fasces (symbol), F:29 with picture Faucial tonsil Milk, M:466 Fascism ipolitical science], F:29 Tonsil, T:296 Nutrition, N:363 See also list of Related Articles Faulkner, Brian Irish political leaderl, Weight control, W:133 Black Shirt, B:377 Fat hen [weed], F:34 Fasces, F:29 Faulkner, William (American author), Italy (Italy under Mussolini), 1:470 Fat lamp F:37 with portrait Lamp (Fat or oil lamps), L:36 Mussolini, Benito (Fascist dictator), American literature (Modernist fic-Fat-soluble vitamin M:745 tion), A:317 with portrait Lipid (Complex lipids), L:303 Nazism, N:63 Novel (New directions in the novel), Vitamin (Kinds of vitamins), V:411 Pound, Ezra Loomis, P:728 N:313 Totalitarianism, T:308 Fata Morgana Fault (geology) Mirage, M:507 World War II (Economic problems), Armenia (Land and climate), A:580 Fatalism (belief), F:34 W:379; (in Italy) W:380 California (Land), C:38 Fashion artist Free will, F:433 Death Valley, D:60 Predestination, P:741 Clothing (Fashion writers and artists), Earth (The shaping of the continents), Fatehpur Sikri (India) Ci:108 Uttar Pradesh (Places to visit), U:291 Fashion, F:31 with pictures Earthquake (Damage by earthquakes), Fates [mythology], F:35 See also list of Related Articles Mythology (Greek divinities), M:757 Clothing, Ci:88 Earthquake (How an earthquake be-Custom, Cl:536 Fathead minnow gins), E:33 with picture Dior, Christian, D:183 Minnow, M:499 Earthquakes (Where and why earth-Father Brown [literary figure] quakes occur), E:36 with pictures Italy picture on, 1:462 Fashion coordinator Chesterton, G. K., C:385 Island, 1:422 Detective story (The pattern), D:136 Clothing, Cl:108 Lake (How lakes are formed), L:17 Fashion designer **Father Christmas** Petroleum (How petroleum was

Santa Claus, S:76 with pictures

Fathers and Sons [book by Turgenev]

Father Flanagan's Boys' Home

Boys Town, B:504

Nihilism, N:218

Clothing, Cl:108 with picture

Doll (Since the 1950's), D:248

Clothing (Fashion writers and artists),

Fashion doli

Fashion editor

C1:108

Faruk !, F:29

Fazenda

France (The revolutions of 1830 and Tennis (The serve), T:144 Brazil (The Central and Southern Pla-Fault-block mountain teaus Region), B:540 1848), F:414 Mountain, M:667 with diagram Latin America (Rural life), L:80 Revolution of 1848, R:247 Fault line February Revolution [1917] iceland (The inland plateau), 1:22. See Federal Bureau of Investigation Lenin, V. I., L:171 Faun (mythology), F:37 with picture F.D.R. Fedchenko Glacier Satyr, S:102 See Roosevelt, Franklin Delano Tajikistan (Land and climate), 7:14 Fauna, F:37 Fe [symbol] Federal Aviation Administration Flora, F:231 Iron, 1:385 Fauré, Gabriel Urbain French com-Fealty, Oath of Aeroplane (Building an aeroplane). poserl, F:37 Homage, H:253 A:103 Faust [German astrologer], F:38 Fear and Trembling (book by Klerkeg-Aviation (Aviation agencies), A:880 Mephistopheles, M:358 Federal Bureau of Investigation (Fil. Faust Overture, A [music by Wagner] Kierkegaard, Søren Aabye (His philos-FM4 Wagner, Richard, W:3 ophy), K:246 Police (United States), P:643 Faust [opera by Gounod] Fear Federal Communications Commis-Gounod, Charles, G:266 Child (Unrealistic fears), C:407 sion (FCC) Opera, 0:470 Emotion (Early theories about emo-Telephone (United States), T:109 Faust [play by Goethe] tions), E:230; (Modern theories Federal court Drama (Romanticism), D:297 about emotion) E:230 Australia, Legal system of, A:827 Faust, F:38 Phobia, P:427 Federal Court of Canada German literature (Characteristics of Feast of the Rose Garlands. The Canada, Government of, C:93 German literature), G:106; (The [painting by Dauurer] Federal Deposit Insurance Corpore Storm and Stress movement) Dauurer, Albrecht, D:353 tion (FDIC) C/108 Feast of Weeks New Deal (Helping savers and inves-Goethe, Johann Wolfgang von, G:227 Shavuot, S:335 tors), N:109 Feasts and festivals, F:39 Gounod, Charles, G:266 Federal district [United States of Amer-Fauves [French artists], F:38 with picture Islam (Customs and ceremonies), 1:413 ical, F:44 Derain, André, D:126 Judaism (Holy days and festivals), J:154 Federal Emergency Relief Adminis-Dufy, Raoul, D:342 See also list of Related Articles tration Matisse, Henri, M:263 Feather, F:40 with diagrams New Deal (Helping the needy), N:110 Painting (Fauvism), P:79 See also list of Related Articles Federal government **Fauvism** Bird, B:349; (Feather care) B:343 See Federalism See Fauves Chicken (Kinds of chickens), C:396 Federal judge Favaloro, Rene (Argentine doctor) Indian, American pictures on, I:147 Australia, Legal system of, A:829 Heart (Development of heart surgery), Peacock, P:228 Federal Parliament H:112 Parliament (Parliaments in other cour-Pigeon (The body of a pigeon), P:494 Medicine (The medical revolution), Sculpture (Pacific Islands sculpture), tries), P:192 M:317 SOM Federal Republic of Germany **Favelas** Skin (Animal skin), S:471 Germany, G:112 Brazil (City life), B:533 Feather star Federal style Favenc, Ernest [Australian explorer]. Architecture (Neoclassical architec-Sea lily, S:222 F:39 Feather-tail glider [marsupial], F:41 ture). A:529 Favorita, La lopera by Donizettil Furniture (Early American furniture), with picture Donizetti, Gaetano, D:266 Feather, Lord (British trade union F:503 with picture **Favourite** leaderl, F:41 Federal system Horse racing (Betting), H:308 Feathering propeller Federalism, F:44 Favrile (glass) Aeroplane (Propellers), A:93 with pic-Government, G:271 Glass (Tiffany Favrile glass), G:199 Local government, L:346 Tiffany, Louis Comfort, T:243 Political parties (Organizing the gov-Propeller (Aeroplane propellers), Fawcett, Percy Harrison (British ex-P:807 ernment), P:648 plorerl, F:39 **Feature** Federal tribunal Fawkes, Guy [English conspirator], F:39 Australia, Legal system of, A:828 Archaeology (What archaeologists England (Traditions), E:266 study), A:500 Federalism (government), F:44 Gunpowder Plot, G:430 Feature syndicate Government, G:271 Fawkner, John Pascoe [Australian pio-Journalism (News services), J:150 Federalist, The American literature (The revolutional) neerl. F:39 News service, N:179 Fawley oil refinery Newspaper (Preparing editorials and period), A:311 Hampshire picture on, H:34 features). N:182 **Federalist Party** United States, History of the (Establish Febrile convulsion ing political parties), U:244; (De Deer, D:78 with picture; (Young) D:80 Convulsions, Ci:325 cline of the Federalists) U:245 Fax Fever, F:65 Washington, George (First administra See Facsimile Febronianism Fax machines Pope (The 1700's and 1800's), P:678 tion (1789-1793)), W:62 Electronics, E:184 February, F:42 Federation (political unit) See also Facsimile machine Australia, History of, A:814 Calendar, C:33 Civil service (Work of civil services) Faylakah (island, Kuwatt) Julian calendar, J:161 Kuwait (Land), K:344 Leap year, L:136 Ci:42

February Revolution [1848]

Federation isociology

Artery (Principal arteries), A:605

Indian, American (Federations), 1:145 Leg (Blood and nerve supply), L:154 Fedération Aéronautique Interna-**Feisal** Femur See Faisal tionale Aviation (The first flying regulations), Hip, H:217 Felafel Knee, K:297 Chickpea, C:401 A:882 Leg. L:153 with diagram Israel (Food and drink), 1:432 **Federation Cup** Pelvis, P:250 Tennis (Tennis tournaments), T:146 Feldspar [mineral], F:48 Fedération Internationale de Foot-Fen [geography] Granite, G:295 Mineral picture on, M:483; (table) See Fens ball Association (FIFA) Fence rider Football, Association, F:326 M:486 Cowboy (On the ranch), Ch407 Fedération internationale de la Lutte Moonstone, M:597 Fencing Isportl, F:50 with pictures Pottery (Porcelain), P:722 Amateur Olympic Games table on, O:438 Wrestling (Amateur wrestling), W:415 Fellbrige (literature) Fenech Adami, Eddie | Maltese political Mistral, Frédéric, M:516 Fedération internationale de leaderl, F:51 Felix Holt, Radical [book by Eliot] l'Automobile (FIA) Fenech, Jeffrey [Australian boxer], F:51 Eliot, George, E:210 Car racing (Racing organizations), Fénelon, François de Salignac de la Feliahin [people] E-100 Mothe-[French author], F:51 Egypt (Rural life), E:108 picture on Fedération Internationale de Nata-French literature (Classical prose), F:447 E:109 tion Amateur (FINA) Feng [book by Wain] Felling of Trees [poetry by Mistral] Swimming (Swimming as a sport), Wain, John, W:5 Mistral, Gabriela, M:516 So:485 Fenian Brotherhood (organization) Fellini, Federico (Italian film director), Federation of Australia, F:44 with pic-Davitt, Michael, D:50 F:439 hires Fenian cycle Film industry (The art film revival), Australia, Government of, A:789 Irish literature (The Fenian, or Os-F:104 Australia, History of, A:794 slanic, cycle), 1:382 Fellow travellers See also list of Related Articles Mythology, M:760 Russian literature (The period of re-Federation of Malaya Agreement Fenian movement (Irish history), F:51 birth), R:500 [194R] Ireland, History of, 1:375 Fellowship of the Ring, The book by Malaysia, History of (The emergency), Fenian Ram (submarine) Tolkien] M:107 Holland, John Philip, H:246 Tolkien, J. R. R., T:288 Federation wheat, F:48 Fenians (political group) Felon [European history] Feed [livestock], F:48 See Fenian movement Feudalism (Justice under feudalism), See also list of Related Articles Fenland (England), F:51 F:64 Livestock, L:338: pictures on L:337 Cambridgeshire (Land), C:50 Felony [law] Maize (Livestock feed), M:71; (The Fennec (animal), F:51 with picture Crime (Felonies and misdemeanours), mixed industry) M:74 Fox (Kinds of foxes), F:379 CI:436 Vetch, V:352 Fennei [herb], F:52 with picture Feed crop Felt [fabric], F:49 Fennelflower [botany], F:52 Clothing (Clothing materials), Ck106 Crop, Cl:453 Fens [England], F:52 Feedback Rabbit, R:36 Wetlands, W:200 Textile, T:172 Automation, A:872 with picture Feoktistov, Konstantin (Russian astro-Communication (Cybernetics and in-Felt-tip pen Pen (Soft-tip pen), P:251 formation theory), Cl:237 Space exploration (Voskhod and Gem-Cybernetics, Cl:509 Felting ini: The first multiperson space Wool, W:310 Feeder airline flights), So:148 Airline (Kinds of airlines), A:207 Female Fer-de-lance (snake), F:52 with picture Gender, G:74 Feeder cattle Viper, V:400 Reproduction, R:225 Cattle, C:277 Feralia [festival] Sex, S:290 Ranching (Life on a cattle ranch), R:133 Halloween (The Romans), H:24 Female Eunuch, The Ibook by Green Ferber, Edna [American novelist], F:52 Greer, Germaine, G:365 Animal (Adaptations for feeding), with portrait Female pattern baldness A:398 with pictures Ferdinand I (king of Bohemia and Hun-Baldness, B:39 Baby (Feeding procedures), B:8 with gary] Female seed cone Austria (The Habsburgs), A:865 picture Pollen, P:655 Bird, B:339 with pictures Czechoslovakia (Habsburg rule), Seed (Seed development in gymnos-Culture (Satisfying basic needs), Cl:491 CI:523 perms), \$:236 Pet, P:322 Habsburg, House of, H:3 Feminine gender (grammar) Zoo, Z:504 Ferdinand II (Holy Roman emperorl, Feedlot Gender, G:74 Noun (Gender), N:309 Cattle (Feeder cattle), C:277 with pic-Thirty Years' War (The Bohemian pe-Feminine Mystique, The book by Frieriod), T:221 Feeler lentomology Ferdinand III [Holy Roman emperor],

Friedan, Betty, F:459 with portrait

French literature (Recent French litera-

Feminism, F:49 with picture

ture), F:450

Friedan, Betty, F:459

Femoral artery

Steinem, Gloria, So:313

F:53

gon), F:53

Ferdinand V (king of Castile and Ara-

disgrace), Ch211

Columbus, Christopher (Columbus in

Columbus, Christopher (Final days),

Insect, 1:249 with picture

See Foot

Feljoada (food)

Animal (Legs and feet), A:396

Brazil(Food and drink), B:534

Feininger, Lyonel (American painter),

F:48 with picture

physicist), F:54 with portrait Nobel Prizes (Physics), N:226

nuclear weapons), N:229

Nuclear energy (The development of

Ci:212

Doll (Doll festivals and customs). Columbus, Christopher picture on, atom), P:478 D:244 with picture Ci:210 Research (Applied research), R:236 Fertility drug Columbus, Christopher (Success in Science picture on, \$:147 Fertilization, F:59 Spain), Cl:207 Multiple birth, M:694 Szilard, Leo, So:526 Columbus, Christopher (Years of wait-Uranium (History of the uses of ura-Fertility rate [statistics] Birth and death rates, B:366 ing), Ci:207 nium). U:276 Exploration (Columbus reaches Amer-Fermion Fertilization, F:59 ica). E:420 Boson, B:474, B:475 Animal (Sexual reproduction), A404 Isabella, I:411 Fermium leiementl. F:55 Baby (Before birth), B:4 Spain (Union of the Spanish King-Fern, F:55 with pictures Bird (Laying and hatching eggs), Bills doms), So:183 Coal picture on, Cl:119 Embryo, E:226 Ferdinand VII [king of Spain] Plant, P:544; (Sexual reproduction) Embryology, E:228 Latin America (The wars of indepen-P:556 with picture; (Classification Fish (How fish reproduce), F:176 dence), L:90 of plants) P:570 Flower, F:264 Napoleon I (Fall from power), N:22 Pteridophyle, P:833 Heredity (Sex cells and reproduction, Spain (Loss of the empire), So:185 Spore (Plant spores), So:238 W:186 Ferdinand, Archduke Tree (Tree ferns), T:376 Human body (The reproductive sys-See Francis Ferdinand Fernan, Marcelo Briones, F:57 tem), H:358 Fernández de Lizardi, José Joaquín Fergana Valley See also In vitro fertilization Uzbekistan (Land and climate), U:293 [Mexican author] Maize (How the plant reproduces), Ferguson plaid Latin-American literature (The 1800's), M:72 Tartan picture on, T:48 Oestrous cycle (Hormonal regulation) Ferguson, Harry, F:53 Fern, Juanández, Juan (Spanish ex-D5414 Ferguson, Sarah plorer] Pollen, P:656 Elizabeth II (The royal family), E:214 Juan Fernández, J:153 Pregnancy, P:741 Fergusson, Robert (Scottish poet) Fernandina lislandi Reproduction, Human, R:225 with pt Scottish literature (1700-1800), S:176 Galapagos Islands, G:9 with map ture R:227 Fermanagh (Northern Ireland), F:53 Fernandino (people) Reproduction (Through sexual reprowith picture and map duction), R:223 Equatorial Guinea (Peoples), E:315 Arms picture on, A:588 Ferret [mammal], F:57 with picture Reptile (Reproduction), R:233 Fermat, Pierre de [French mathemati-Seed (Seed development in anglos-Ferrier, Kathleen [English contralto], clan), F:54 F:50 perms), S:236 Geometry (Beginnings of modern ge-Ferrimagnetic ordering Test tube baby, T:161 with diagrams ometry), G:98 Magnetism (Magnetism of materials), Uterus, U:287 Mathematics (Mathematics and the Fertilized egg scientific revolution), M:260 Ferris wheel, F:58 with picture Baby (Before birth), B:4 Fermentation, F:54 Ferrite Fertilizer, F:59 Alcoholic beverage (Fermented bever-Magnetism (Permanent magnets), See also list of Related Articles Agriculture, A:175; (Causes of polluages), A:237 M:55 Bacteria (Helpful bacteria), B:19 tion) E:278, A:177; (Causes of por Ferroalloy Bacteriology (History), B:23 Smelting, S:497 lution) E:278 Brewing, B:535 with picture Ferromagnesian silicates Compost, Ci:250 Cider, Ci:3 Conservation (Soil conservation), Gnelss, G:217 Distilling, D:204 Ferromagnetic ordering CI:293 Food preservation (Other methods), Magnetism (Magnetism of materials), Cropping system, Ci:453 Food supply (Making farmland more F:308; (Early methods) F:308 M:56 Gluten, G:216 Ferromanganese productive), F:313 Gardening (Analysing the soil), G38; Grain, G:285 Manganese (Uses), M:152 Maize (The fermentation and distilling (Caring for the garden) G:39 Ferrosilicon process industry). M:75 Indian, American (Farming), 1:140 Magnesium (How magnesium is ob-Patchouli, P:213 Lawn (Caring for a lawn), L:120 tained), M:31 Nitrogen (Nitrogen in agriculture), Silo, S:427 Ferrous alloy Tea (Processing tea), T:78 Alloy (Alloys of iron), A:278 N:222 Tobacco (Manufacturing tobacco Ferrous sulphate (chemical), F:58 Potash, P:717 Water pollution (Agricultural chem) products), T:271 Ferrovanadium [ailoy] Vinegar (Making vinegar), V:395 Vanadium, V:305 cals and wastes), W:89 Fertilizers and animal manure Whisky, W:229 Ferrule Environmental pollution (Kinds of emi-Wine (How wine is made), W:274 Pencil (Cased pencils), P:254 ronmental pollution), E:303 with Yoghurt, Y:454 Ferry (boat), F:58 with picture Fermented drink See also Transportation diagram Alcoholic beverage, A:237 Ship (Other passenger vessels), S:376 Fès Fermenting room Fertile Crescent [Southwest Asia], F:58 Fez [Morocco], F:66 Tea (Black tea), T:79 with map Fescue, F:61 with picture Grass (Kinds of grass), G:302 Fermi, Enrico (Italian-born American

Asia (The Tigris-Euphrates Valley),

ture), P:758

Fertility doli

Prehistoric people (The rise of agricul-

Fessenden, Reginald Aubrey Cant

electronic age), Cl:233

dian born physicist Communication (The beginning of the

Physics (Uncovering the secrets of the

Flax (Growing and processing fibre

flax), F:222 with picture

Leg, L:153 with diagram

Clothing (The Greeks), Ci:99

Fibula (ornament)

Festinger, Leon iAmerican psycholo-Paim (Products of paims), P:107 Feudalism, F:62 with pictures Plastics (To replace natural fibres and See also list of Related Articles Social psychology, So:4 hides), P:578 Charlemagne (Administration and in-Festival Polyester, P:660 Aruba (Education and cultural life), fluence), C:349 Textile, T:169 City (Government), Ci:29 A:615 Thread, T:228 Democracy (The Middle Ages), D:103 Barbados (Sports and recreation). Fibre crop Estate, E:334 B:102 with picture Crop, Ci:453 Europe (The Middle Ages), E:385 Buddhism, B:617 France (The rise of manorialism and Fibre hemp Doll (Doll festivals and customs), Hemp, H:149 feudalism), F:411 D:244 with picture Freedom (The Middle Ages), F:435 Fibre length Feasts and festivals, F:39 Wool (Sorting and grading), W:311 Government (The Middle Ages), G:276 Film Industry, F:95 Heraldry (Beginnings), H:160 Fibre-optic cable Haiti (Culture), H:16 Telephone (Long-distance lines), Law (The Middle Ages), L:114 HInduism, H:213 with picture T:107; (Recent developments) Rome (Feudal times and the Renaislainism, J:12 T:110 Puerto Rico (Recreation), P:847; (Arts) sance), R:369 Fibre optics, F:67 with pictures World, History of the (Medieval Cables, C:4, C:5 with picture Europe), W:342 Rock music (Growing social signifi-Communication (Communication of Feuerbach, Ludwig Andreas (German cance), R:313 the future), Ci:235; picture on philosopherl, F:65 Slovenia (People), S:493 Cl:237 Fever (disorder), F:65 Sweden (Holidays), So:466 Glass (Kinds of glass), G:190 Deafness (Diseases), D:55 Trinidad and Tobago (Culture), T:405 Laser (Recording, storing, and trans-Disease (General defence reactions), West Indies (Arts), W:167; (Other arts) mitting information), L:70 Physics (Physics today), P:478 Temperature, Body, T:137 Western Australia (Visitor's guide), Telephone (How a telephone call trav-Fever blister W:176 els), T:107 Cold sore, Ci:159 Festival mask Television (Coaxial cable and fibre-Feverfew (plant), F:65 Mask. M:243 optic cable), T:132 Pyrethrum, P:876 Festival of Light Feynman, Richard P. [American physi-Fibre products Sweden (Holidays), So:466 Forest products, F:354 cistl. F:65 **Festival of Lights** Fibre, Dietary Quantum electrodynamics, Q:6 Hanukkah, H:57 Diverticulitis, D:204 Fez [hat], F:66 Festival of the Sun Food (How the body uses food), F:295; Morocco (Way of life), M:612 Indian, American (Indians of the (Recent developments) F:302 Fez [Moroccol, F:66 Andes) picture on, 1:162 Nutrition (include fibre), N:364 Fez, Treaty of [1912] Festival Overture Imusic by Baxl Fibreboard, F:68 Morocco (French and Spanish con-Bax, Sir, Arnold, B:161 Wallboard, W:24 Feta (cheese) trol), M:615 Fibreglass, F:68 with picture Greece (Food and drink), G:335 EI A Energy supply picture on, E:251 See Fédération Internationale de Fetal alcohol syndrome Glass (Kinds of glass), G:190 l'Automobile Alcoholism (Effects), A:239 Interior decoration (Fabrics), 1:286 Fetal monitor [medicine] Flanna [Irish legend] Fibreoptic bronchoscope Mythology (The Fenian cycle), M:760 Childbirth (Methods of childbirth), Bronchoscope, B:586 Fianna Fáil [political party], F:66 C:412 Fibrillation Fête champêtre De Valera, Eamon, D:143 Drug (Antiarrhythmics), D:312 Ireland, Government of (Political par-Watteau, Antoine, W:102 Heart (Abnormal heart rhythms), H:109 Fête galante (painting) ties), 1:365 Fibrin, F:69 Ireland, History of (The Irish Free Rococo, R:328 Anticoaquiant, A:458 State), 1:377; (The Republic of Ire-Watteau, Antoine, W:102 Blood (Controlling bleeding), B:397 Fêtes Galantes Ipoems by Verlainel land) 1:377 with picture Verlaine, Paul, V:346 Sinn Féin, S:454 Fibrinogen Fiat Igovernmenti, F:66 Fetish (magic), F:61 Blood (Platelets), B:394 Flaz, Ahmad Flaz [Indian writer] Congo (People), Ci:280 Fibrin, F:69 India, Literature of (Progressive litera-Magic (Elements of magic), M:45 Plasma (Functions of plasma), P:575 ture), 1:129 Mythology (African mythology), M:762 Fibrous membrane with picture Fibonacci sequence Membrane, M:341 Fetish (psychology), F:61 Fibonacci, Leonardo, F:66 Fibrous root Fibonacci, Leonardo (Italian mathema-Fetura Plant (Roots), P:553 with picture Abortion, A:14 tician], F:66 Root (Kinds of roots), R:392 Mathematics (Arab mathematics), Baby (The developing baby), B:4 Vegetable (Roots), V:322 Embryo, **E:226** M:257 Fibrovascular bundle Embryology, E:228 Fibre, F:66 with picture Botany (table), B:481 See also list of Related Articles Growth (Early development), G:388 Fibula [anatomy] Agriculture (Chief agricultural prod-

ucts), A:162

Cotton (Cotton fibres), Ci:381; (Syn-

thetic fibres) Ci:389

Radio (Early development), R:84

Pregnancy (The baby during preg-

Reproduction, Human (Growth of the

nancy), P:741

fetus), R:229

Feud. F:61

Vendetta, V:326

Atom (How scientists study atoms),

A:728

Pin, P:502 with picture Ion microscope, 1:326 N:312 Ficciones [work by Borges] Field event Police (History), P:643 Fields, Dame Gracie (English actual) Athletics (The field), A:710; (Field Borges, Jorge Luis, B:468 events) A:711; (Track and field) Latin-American literature (The mid-F:71 with portrait Fields, W. C. [American film comedian 1900's), L:96 Fichte, Johann Gottlieb [German phi-Olympic Games table on, 0:441 F:71 with portrait Fiery searcher beetle losopheri, F:69 Field glasses Political science (Liberalism), P:654 Binoculars, B:297 Beetle picture on, B:199 Fiction, F:69 Field hand See also list of Related Articles Slavery (Functions of slaves), S:482 Ecuador (People), E:68 Arabic literature, A:489 Field-ion microscope Latin America (Recreation), L:82; ple-Literature, L:316 Ion microscope, I:326 ture on L:83 Novel, N:311 Field ionization Mexico (Holidays), M:406 Realism (in fiction), R:159 Ion microscope, 1:326 Philippines (Rural life), P:373 Romance, R:347 Field line [magnetism] Puerto Rico (Recreation), P:847 Writing, W:422 Cosmic rays (Galactic cosmic rays), FIEA **Fictional biography** Ch370 See Fédération Internationale de Four Biography, B:300 Magnetism (Magnetic fields), M:55 ball Association Fictive kin with diagram Fife [musical instrument], F:72 Family (Family relationships), F:20 Van Allen belts, V:305 Fife Region (Scotland), F:72 with picture Fiddleback spider, F:69 Field magnet and map Fiddler [insect] Electric motor (Parts of an electric Arms picture on, A:589 Cicada, Cl:1 motor), E:154 North-East Fife, N:261 Fiddler crab, F:70 with picture Field marshal Fifth axiom (geometry) Biological clock (Other rhythms), Marshai, M:225 Geometry (Euclidean geometry), 655 B303 Fleid mushroom Fifth Child, The (book by Lessing) Crab, Cl:412 Fungi (Common kinds of fungi), F:486 Lessing, Doris, L:187 Crustacean pictures on, Ci:467 Fifth column (undercover agents), F/N Mushroom (Nonpoisonous mush-Fiddler on the Roof [musical] rooms), M:724 Propaganda, P:803 Musical comedy (The modern musi-Field names, F:70 Underground, U:21 cal). M:740 Field observation Fifth Republic [French history] Fiddler's House, The [play by Colum] Research (Collecting evidence), R:236 De Gaulle, Charles André Joseph Irish literature (Drama), 1:383 Field of force [physics] Marie, D:87 Fiddler's House, The [play by Colum] France (Government), F:395; (History) Force, F:337 Colum, Padraic, Ch203 Field of vision EXTR Fidelio (opera by Beethoven) Fifties, The work by Wilson Blind spot, B:387 Beethoven, Ludwig van (The second Blindness, B:388 Wilson, Edmund, W:261 period), B:195 Fifty-Four Forty or Fight (U.S. histor) Field spaniel, F:70 with picture on F:71 **Fidelity bond** Field structure [electricity] Fifty Million Frenchmen (music by Por Bonding, B:445 Electric generator (Parts of a genera-Fiduciary bond tor), E:146 terl Bonding, B:445 Electric motor (Parts of an electric Porter, Cole, P:696 Fifty-three Stations of the Tokaldo Fledler, Arthur [American conductor]. motor), E:153 Highway ipicture by Hiroshige Field study Fief Geography (How geographers work), Hiroshige, H:221 Fifty Years of Song [book by Dawson] City (Government), Ci:29 G:69 Feudalism, F:62 Dawson, Peter, D:50, D:52 Field trials Dog, D:239 Middle Ages (The Carolingian Empire), Field, David Dudley [American clergy-Fig (fruit), F:74 with picture man] Figaro (literary figure) Beaumarchais, Pierre Augustin Caron Field, Cyrus West iAmerican business-Field, F:70 manl Field, David Dudley, Jr. [American lawde, B:175 Cables (The Atlantic telegraph cable), Mozart (Operas), **M:682** yer] Opera (Barber of Seville, The O.46) C:6 Field, F:70 with picture; (Marriage of Figard Field, F:70 Fleid, James G. (American political Telegraph (Across the Atlantic), T:103 leader] 0:471 Field artillery Figg, James (English athlete) Populism (The People's Party), P:687 Boxing (The beginning of modembar Artillery, A:614 Fleid, John Ilrish composeri, F:70 Field beet Field, Stephen Johnson (American asing), **B:498** Mangelwurzel, M:153 sociate justice) Fighting Field bindweed Field, F:70 Animai, A:404 Fighting Planes and Aces book by Bindweed, B:296 Fieldfare (bird) Field coil Thrush, T:231 Johns] Electric motor (Parts of an electric Fielding Johns, W. E., J:132 Fightingfish, F:74 with picture motor), E:154 Baseball, B:128 with picture Animal (Courtship behaviour), A:105 Field effect transistor Cricket, Ci:425; diagram on Ci:426; Figueiredo, João Baptista (Brazilis) (The fielding side) Ch428 Transistor, T:340 Field-emission microscope Fielding, Henry (English author), F:70 political leader Brazil (Under military rule), B:546

with picture

Novel (The first English novelists),

Figueres, José Costa Rican political

277

Filid (poets) leader Costa Rica (Revolutions and reforms), Ch378 Figurate number Series (Working with odd numbers), E:47 S:271 with diagram Figurative form [art] Sculpture, S:216 with picture **Figure** Wood, W:299 Figure ground perception Gestalt psychology, G:143 with picture Figure of speech (language), F:74 Slang, S:478 Filler metal Figure skating ice skating, I:15 with pictures Olympic Games table on, 0:437 Roller skating (Competitive roller skating), R:334 Figured bass (music) Bach, Johann Sebastian (His works), pictures Figwort family (botany), F:75 Fljl, F:75 with pictures and map Flag picture on, F:205 Pacific Islands (Recreation), P:7 with picture Suva, So:452 FILA See Fédération Internationale de la **Filling knife** Lutte Amateur Filament Knife, K:297 Edison, Thomas Alva (The electric Film advance light), E:81 Electric light (Incandescent lamps), P:444 Muscle, M:714 Film Rayon (How rayon is made), R:148 Rope (How rope is made), R:395 Textile (Sources of textile fibres), T:169 Thread, T:229 Vacuum tube (How a vacuum tube works), V:297 Filament [botany] Flower (The stamens), F:262 Plant (Flowers), P:555 with picture P:449 Filament fibre Fibre, F:66 Filaria [roundworm], F:79 with picture Elephantiasis, **E:208** Film camera Manson, Sir Patrick, M:165 Worm (Roundworm), W:411 Film festival Filariasis (disease) Mosquito, M:633 Filbert, F:79 Hazel, H:92 File [chess] Chess (The board and the men), C:382 with diagram File [heraldry] Heraldry picture on, H:159 File [tool] Woodworking (Cutting), W:307; pictures on W:308

Filibeg

Flibuster

Tartan, T:47

Pirate, P:519

Filibustering (politics), F:79

Sweden, So:468 Film Sense, The [film by Eisenstein] Irish literature (Early Irish literature), Eisenstein, Sergei Mikhailovich, E:135 1:381: (Poetry) 1:381 Filioque (religion) Film speed Photography (Shutter speed), P:447; Eastern Orthodox Churches (History), (Speed) P:450 **Filmsetting** Filipepi, Allesandro Printing (Typesetting), P:781 Botticelli, Sandro, B:454 Filipino-American War Filmstrip, F:109 Filocolo [work by Boccaccio] Philippines, History of the, P:408 Boccaccio, Glovanni, B:417 Filipinos [people] Filostrato (work by Boccaccio) Philippines, P:369 Boccaccio, Giovanni, B:417 Filippo [play by Alfieri] Filter, F:109 Alfieri, Vittorio, A:249 Air cleaner (Filtration air cleaners), Welding (Fusion welding), W:142 A:189 Air conditioning (Cleaning the air), Filles du Feu, Les [poetry by Nerval] A:191; diagram on A:194 Nerval, Gérard de, N:80 Aquarium (Basic equipment), A:483 with picture Fishing industry (Freezing), F:194 Photography, P:451 Hairdressing (Ancient times), H:12 with Polarized light (How light is polarized), P:636 with diagrams Fillet [architecture] Reservoir, R:238 Column (The Ionic column), Ch213 Fliter feeding Filling (dentistry) Animai (Filtering mechanisms), A:398 Teeth (Dental decay), T:93 with picture with picture Filling [weaving] Filtering Damask, D:17 Paint, P:25 Textile (Woven fabrics), T:171 Filtration air cleaner Velvet, V:326 Air cleaner, A:189 **Filtration** Magnesium (How magnesium is ob-Filimore, Millard (U.S. president), F:79 tained), M:51 Water (Purifying and treating water), Camera (How a camera works), C:56 UV:78 Photography (Taking photographs), Fin (aeropiane) Aeroplane (The tall assembly), A:92 Airship (How airships fly), A:217 Edison, Thomas Alvar (Inventor-Glider (The tail assembly), G:207 industrialist of West Orangel, E:81 Film industry (The film), F:91; pictures Fin izoologyi Animal (Fins, tails, and flippers), A:396 with picture Photography (Exposing the film), Fish (External anatomy), F:167 P:442; (Developing the film) Fin whale P:442; (Photographic equipment) Whale, **W:207** Finance Silver nitrate, S:429 Bank, B:91 Film [industrial coating] Budget, **B:619** Polyester, P:661 Computer (In economics and finance), Cl:254 Camera, C:58 with picture Economics (World finance), E:64 Education, E:85 Film industry (Festivals and awards), International Finance Corporation (IFC), 1:290 Film Form [film by Elsenstein] International Monetary Fund (IMF), Eisenstein, Sergei Mikhailovich, E:135 1:293 Film industry, F:80 with pictures Library, L:214 See also list of Related Articles Money, M:547 Ballet (Recording choreography), B:52 New York City, N:150 Communication (At school), Ch228 Research (How research is financed), Hollywood, H:247 India (Communication), 1:76; picture Road (How roads are paid for), R:298 Tokyo (Economy), T:285 Laser (Recording, storing, and trans-Toronto, T:302 mitting information), L:70 Finance bill Los Angeles (Industry), L:392 Bill of exchange, B:292 Projection screen, P:798 with dia-Finance company, F:109 Hire purchase, H:220 Public opinion (The film), P:838

Finch [bird], F:109 Finisher tems). F:130 See also list of Related Articles Clothing (Manufacturing and selling), Fire ant, F:127 Bird picture on. B:318, B:332, B:335 Ant (Protection against enemies) A:431; (The importance of ants) Dry cleaning (How clothes are dry Evolution pictures on, E:410 Island (How life develops on islands), cleaned), D:326 A:434 Finishing Fire appliance DAYS Fire brigade, F:131 with pictures Science picture on, S:145 Cotton, Ci:387 Fire bellied toad Finch, Peter (Australian actor), F:109 Fur picture on, F:491 Toad (The life of a toad), T:268 Film industry (Best performance by an Iron and steel (Shaping and finishing actor), F:96 steel), 1:395 with pictures Fire, F:125 with pictures See also list of Related Articles Fine arts, F:110 Leather (How leather is made), L:143 See also list of Related Articles Leathercraft, L:144 Arson, A:599 Australian Aborigines (Providing fire) Antique, A:463 Textile, T:173 Renaissance, R:217 with pictures Woodworking, W:307 A:035 Fine [law], F:110 Finite series Bushfires, B:670 with pictures Fine Gael (political party), F:110 Series (Working with finite series), Disaster (Accidents), D:188 Bruton, John, B:603 5:269 Earthquake (Damage by earthquakes) Dukes, Alan, D:342 Finite set [mathematics] F:34 FitzGerald, Garret, F:197 Infinity, 1:229 Empedocles, E:231 Ireland, Government of (Political par-Set theory (Kinds of sets), S:275 Forestry (Protecting forest resources), Finite verb ties), 1:365 F:358 Ireland, History of (The Irish Free Infinitive, 1:229 Heat (Sources of heat), H:116 State), 1:377 Verb, V:344 Heraclitus, H:158 Oireachtas (Dáil Éireann), 0:421 Prehistoric people (Homo erectus), Finland, F:113 with pictures and maps Fine-wooiled sheep See also list of Related Articles P:752; picture on P:750 Sheep, S:339 Aviation (Aircraft nationality marks), Safety, S:11 Wool. W:310 A:00x Fire blight [plant disease] Apple (Pests and diseases), A:478 **Fineness** Europe (table), E:359 Wool (Sorting and grading), W:311 Flag picture on, F:208 Bacteria (Harmful bacteria), B:20 Fingal's Cave Helsinki, H:147 with pictures Blight, **B:387** Scotland picture on, \$:166 Russo-Finnish wars, R:502 Pear (Diseases), P:232 Fingal's Cave [music by Mendelssohn] Scandinavia, S:120 with map Plant pictures on, P:567 Mendelssohn, Felix (His life), M:346 World War II (Table: the Axis), W:381; Fire brigade, F:128 with pictures Finger alphabet See also list of Related Articles (table: Military casualties) W:407 Sign language, S:414 with diagrams Finlander (people) Fire clay Finger [anatomy] Clay, Cl:70 Arctic (In the European arctic), A:543 Hand, H:39 Finlandia [music by Sibelius] Fire engine Fire brigade (Fire brigade equipment Finger [botany] Sibelius, Jean, S:405 Banana (How bananas grow), B:71 Finlay, Carlos Juan [Cuban doctor], F:130 with pictures Fire extinguisher, F:134 Finger board Fire brigade (Fire prevention and Guitar, G:419 with diagram Cuba (United States control), Ci:480 Violin (Parts of the violin), V:397 with Finn MacCool (legendary figure), F:124 safety), F:129 diagram Giant's Causeway, G:152 Fire fighting Fire brigade (Fire fighting), F:128 Finger counting Irish literature (The Fenian, or Os-Forestry (Fire), F:358 with picture Chisanbop, C:472 sianic, cycle), 1:382 Finger Lakes Finnbogadottir, Vigdis [celandic polit-Fire hazards Fire brigade (Fire prevention and fire New York (Land), N:140 ical leader] Finger painting, F:110 with picture President (Women as presidents), safety), F:129 Fire prevention, F:135 with pictures Finger spelling P:769 Fire marks, F:135 with picture Deafness (Special aids and communi-Finnegans Wake [book by Joyce] Fire Next Time, The book by Baldwill cation techniques), D:57 Irish literature (Modern Irish litera-Sign language, S:414 with diagrams ture), I:383 Baldwin, James, B:39 Fire on the Snow, The Iplay by Stewart Finger weaving Joyce, James, J:152 Finney, Albert (British actor), F:124 Stewart, Douglas, So:323 Weaving (Weaving without a loom), W:126 Finnian of Clonard, Saint, F:124 Fire opal [gem] Finger-wheel rake Finnish spitz, F:124 with picture Opal, 0:454 Rake (The side-delivery rake), R:127 **Finns** Fire prevention, F:135 Building construction (Classification of Fingered limpet Finland (People), F:116 buildings), B:628 Animal picture on, A:394 Fiord (geography), F:124 Fire brigade (Fire prevention and fire **Fingernail** Denmark (Land regions), D:113 Nail (finger), N:5 Europe picture on, E:356 safety), F:129 Fingerprinting, F:111 with picture Firth, F:150 Fireproofing, F:139 Forestry (Fire), F:358 Federal Bureau of Investigation (Other Ice Age (Effects of the ice sheets), L:7 Safety (Safety from fire), S:11 Norway, N:291 with picture; (Coast and services), F:44 Police laboratory (Collecting the eviislands) N:297 with map Fire resistance Building construction (Classification of dence), P:644 with picture; (His-Fir, F:124 with pictures Firdausi (Persian poet), F:125 buildings), B:628 tory) P:645

Fire alarm

Fire brigade (Communications sys-

Fingle Bridge (England)

Devon (Places to visit), D:147

Fire retardant

Clothing picture on, Cl:107

Fire worship (religion), F:137

Firearm (weapon), F:137 with pictures See also list of Related Articles Browning, John Moses, B:595 Colt, Samuel, Cl:203

Infantry (Formations), 1:228 Whitney, Eli (Arms manufacturer), W:240

Fireball inuclear energyl Nuclear weapon (Effects of nuclear weapons), N:336

Firebird Tanager, T:25 Firebird, The (ballet)

Fireball [astronomy], F:138

Classical music (The 1900's), Cl:62 with picture

Fokine, Michel, F:285 Stravinsky, Igor (Early works), So:350 Tallchief, Maria, T:16 with picture Firebrick

Refractory, R:183 Firecracker Fireworks, F:140

Firecracker flower, F:138 with picture Frecrest

Kinglet, K:257 Firedamp (gas) Damp, D:18 Safety lamp, S:16

Firefly, F:138 with pictures Animal (Courtship behaviour), A:405 Beetle, B:200

Insect picture on, 1:256 Fireman

See Fire Brigade Fireplace

Heating, H:125 Fireproofing, F:139

Fire (Fireproof materials), F:126 Fires of London, F:139 with pictures Fire brigade (History), F:133

London (War, plague, and fire), L:373 Fireside Poets American literature (Poetry), A:314

Firestarter book by Kingl King, Stephen, K:255 Fireweed, F:140

Firewood Camping (Building a campfire), C:67

Cord, Cl:350 with picture Fireworks, F:140

Signalling (Visual and sound signals),

Fireworks Music [music by Handel] Handel, George Frideric, **H:41**

Brick, B:558

Ceramics (Making ceramics), C:326 with picture Pottery, P:724

Sculpture (Greek sculptors), S:192 Firing chamber

Rifle (How a rifle works), R:274 Firing pin

Ammunition (The primer), A:335 Firearm (Mechanism), F:137 Rifle (How a rifle works), R:274

Firkin

Weights and measures (Miscellaneous weights and measures), W:136

First aid, F:141 with pictures See also list of Related Articles

Drowning, D:310

First Cantata [music by Webern] Webern, Anton, W:127

First Choral Symphony Imusic by Holst Holst, Gustav, H:250

First Circle, The book by Solzhenitsyn] Russian literature (Recent Russian literature), R:501

Solzhenitsyn, Alexander, So:34 First class letter

Post office (Classes of mail), P:712 First-class lever

Lever (Classes of lever), L:197 with picture

First Continental Congress Continental Congress, Ci:316 United States, History of the, U:241

First day cover Stamp collecting (Cancellations),

So:271

First Essay for Orchestra imusic by Barber! Barber, Samuel, B:106

First Fleet, F:148 with map See also list of Related Articles Convicts in Australia (Convict ships),

CE321 Transportation, T:362

First folio Shakespeare, William (Folios), S:324

First Fruits of Australian Poetry Australian, Literature of (The develop-

ment of poetry), A:830 First Golden Age of Glass

Glass (History of glass), G:195 First Hundred Thousand, The book by Hay]

Hay, lan, H:89 First International

International, The, I:288 First Men in the Moon, The (book by

Moon (Literature and music), M:594

First Navigation Act Navigation Acts, N:56

First overtone

Harmonics, H:62 with diagram First-past-the-post voting process

Preferential voting, P:741 First person

Person, P:298 First Punic War Punic Wars, P:857

Rome, Ancient (Expansion overseas), R:377

First Riel Rebellion Red River Rebellion, R:173 First Seminole War

Indian wars (In the South (1813-1842)).

Third World, T:220

First World

First World War See World War I

Firstborn, The [play by Fry] Fry, Christopher, F:477 Firth [geography], F:150

Scotland (Rivers and lakes), S:164 Firth of Clyde [Scotland], F:150 Firth of Forth [Scotland], F:150

Forth, F:365

Fiscal policy Depression, D:125

Inflation (Weapons against Inflation),

Recession (Fighting recession), R:162 Fiscal problem

Federation of Australia, F:45

Fischer, Emil (German chemist), F:150 Fischer, Ernst

Nobel Prizes (for chemistry, 1973: table), N:229

Fischer-Dieskau, Dietrich [German baritonel, F:150 with portrait

Fischer von Erlach, Johann Bernhard [Austrian architect]

Architecture (Baroque architecture),

Austria (Architecture), A:861 Vienna (The city), V:372

Fish, F:151 with pictures

See also list of Related Articles Animal (Adaptations for breathing), A:399 with picture; (A table of animal Intelligence) A:401; (Group

living) A:410 Animal (Fins, talls, and flippers), A:398

with picture Animal (When animals appeared on

the earth), A:411

Aquaculture, A:483

Aquarium (Choosing fish and plants), A:484 with picture

Arctic Ocean (Ocean life), A:548

Ear (The ears of animals), E:13 Eutrophication, E:401

Food (Food from animals), F:295

Food supply (Major sources of food), F:311

Gill, G:159

Great Barrier Reef (Marine life), G:313 with picture

Heart, H:114; diagram on H:113 Ichthyology, 1:24

Pet (Pets for the home), P:319 with pic-

Prehistoric animal (Early forms of animai life), P:744

Respiration (External respiration in ani-

mals without lungs), R:240 Skin (Animal skin), S:471

Sound (Animal sounds), So:46 Tropical fish, T:414

Zoo, Z:502 with pictures Fish and chips

England (Food and drink), E:267 Fish community

Trout (Trout fishing), T:420

and map

Fishing industry, F:187 with pictures

Fitch, John [American inventor], F:183 See also list of Related Articles Fish (Fish in the balance of nature), Invention (The Industrial Revolution). Australian Aborigines, A:835 E-154 1:317 Colonial life in America, Ci:187 Fish farm Dolphin (Dolphins and people), D:253 Propeller, P:807 Fish (Food and game fish), F:153 Ship (The first steamboats), \$:371 Fish (Food and game fish), F:153 Fishing industry, F:187, F:190 with pic-Herring, H:182 with picture Fitt, Gerard lirish politicianl, F:196 Fitzalan, Walter Fish glue Ocean (As a wealth of resources), Scotland, History of (Independent Giue. G:215 Pacific Ocean (Importance of the Scotland), S:170 Fish hatchery Fitzgerald, R. D. [Australian writer] ocean), P:15 Fish pictures on, F:153 Ship (Specialized types of vessels), Australia, Literature of (Modern short Fish hawk stories), A:832 Osprey, 0:512 with picture S:381 Fishing knot FitzGerald, Edward [English author). Fish ladder Fishing picture on, F:185 Salmon (The life of a salmon), S:52 Fitzgerald, Ella (American singer), Fitth Fish meal Fishing line with portrait Fishing industry (Other processing Fishing picture on, F:186 Fitzgerald, F. Scott | American author) methods), F:194 Fishing net F:196 with portrait Fish migration Net picture on, N:86 Fish, F:158 Fishing owl American literature (The lost genera-Fish processing Owl, 0:529 tion), A:317 FitzGerald, Garret (Irish prime minis-Fishing industry, F:193 Fishmeal Fish silage Fish (Other useful fish), F:153 ter!, F:197 Fish (Other useful fish), F:153 Fishmonger Fitzgerald, R. D. [Australian poet], Fit? England (Way of life), E:266 Fitzooth, Robert Fish spear Prehistoric people (The improvement Robin Hood, R:303 Fisk, Sir Ernest British radio engineerl, Fitzpatrick, Alexander (Australian poof tools), P:758 F:195 Fission [biology] Fish trap lice officer! Kelly, Ned (Outlawed), K:213 Fishing industry (Traps), F:193 with di-Amoeba, A:338 Fitzroy, Augustus Henry Fission [physics], F:195 Grafton, Duke of, G:284 Fishburn [ship] Atom (Studying the nucleus), A:730 Fitzroy, Robert [British naval officed, First Fleet, F:148 Bomb (Atomic bomb), B:435 Fisher spider Electric power (Nuclear power sta-F:197 Fitzsimmons, Bob (British boxer), F:197 Spider, So:222 with pictures; (table) tions), E:159 Boxing (Professional boxing), B:498 Energy supply (Nuclear energy), E:248 So:225 Fisher, Andrew [Australian statesman], Solar plexus, So:26 Fermi, Enrico, F:54 Fitzstephen, William (English writer) F:181 Fuel. F:477 Hockey (Hockey in the United King-Australia (table), A:793 Fusion bomb See Nuclear Weapon, dom), H:239 Fisher, Geoffrey Francis (British reli-TESAA Fitzwilliam Virginal Book imusic by gious leaderl, F:181 with portrait Hahn, Otto, H:8 Anglicans (Christian unity), A:368 Isotope (Artificial radiosotopes), I:428 Byrd] Byrd, William (1543-1623), **B:695** Fisher, H. A. L. (British historian), F:182 Nuclear energy (The first artificially Fisher, John Arbuthnot, F:182 with created fission reaction), N:329 Virginal, V:403 Five Bells [poem by Slessor] portrait Nuclear physics, N:332 Australia, Literature of (Modern po-Fisher, Saint John (English religious Nuclear reactor, N:332 leaderl, F:182 etry), A:832 Nuclear weapon (Fission weapons), Fisher, Sir Ronald (British statistician), Five Books of Moses F:182 Physics (Uncovering the secrets of the Pentateuch, P:266 Five Centuries of Religion book by Fisher, Sylvia (Australian soprano), atom), P:478 F:182 with portrait Relativity (Special theory of relativity), Coulton Fisherman bat Coulton, G. G., Cl:391 Five Classics [religious book] Bat (Kinds of bats), B:148 Transmutation of elements, T:344 Confucianism (Early Confucianism), Fisherman's ring U-235, U:2 Pope (Titles, clothing, and symbols), Uranium (Uranium isotopes), U:273; CI:278 (Radioactivity and fissionability) Five-finger Fisher's ghost liegendary figurel, F:182 Cinquefoil, Ci:5 Fishery, F:182 Fission fragment (physics) "Five k's" Punjab (People), P:858 Fishes, Age of Fission, F:195 Five Letters [book by Cortes] See Devonian Period Nuclear energy (Nuclear fission), N:321 Latin-American literature (Colonial lit Fishhook Nuclear reactor (The core), N:332 Fishing (Hooks), F:184 with pictures erature), L:95 **Fission product** Five Movements for String Quartil Fishing industry (Hooks), F:192 with Nuclear reactor (Reactors and the envi-[music by Webern] ronment), N:334 picture Indian, American (Hunting, gathering, Webern, Anton, W:127 Fission weapon and fishing), 1:139 Nuclear weapon, N:335 Five piliars **Fissure** Money picture on, M:548 Islam, I:415 "Five Points" (essay by Le Corbusier) Brain (The cerebrum), B:511 Fishing [sport], F:182 Le Corbusier, L:149

Igneous rock, 1:28

Fistula [disorder], F:195

Rock (Igneous rock), R:307

Five Power Naval Limitation Tresty

Washington Conference, W:63

Theatre (Kinds of scenery), T:197

Bread, B:548 with picture

Flat bread

City picture on, Cl:27 Five-spotted hawk moth 499 Classical music (The Renaissance pe-Flag, F:198 with pictures Moth picture on, M:642 riod), Ci:59 Five Towns (Staffordshire, England), Culture (Using symbols), Ci:491 Pirate pictures on, P:521 Fleminas, F:226 F:197 Painting (The Renaissance in Flanders), Five Visions of Captain Cook (poem Ship, S:385 with pictures Tricolour, T:399 by Slessorl Renaissance (The Renaissance outside Australia, Literature of (Modern po-Flag of convenience Italy), R:218 Ship, S:385 etry), A:832 Walloons, W:26 Flag of truce, F:218 Five-year plan, F:197 Flannel (fabric), F:220 Truce. T:422 China (The beginning of Communist Flannel flower, F:220 with picture Flagella (biology) rule), C:463 Flannelette [fabric] Cell (The cytoplasm), C:295 Communism (Under Stalin), Ci:241 Flannel, F:220 Flagellate Russian literature (The period of in-Algae (Other kinds of algae), A:250 Flap dustrial literature), R:500 Aerodynamics (High-lift devices), A:71 Protozoan (Types of protozoans), P:818 Stalin, Joseph, So:268 Aeroplane (The wing), A:89 with picture Union of Soviet Socialist Republics Glider (The wings), G:207 Flagellum (Manufacturing), U:31; (Stalin Flapper [fashion] Bacteria (How bacteria move), B:21; gains power) 33; (Stalin's policies) Laurencin, Marie, L:106 picture on B:20 U:33 Roaring Twentles, R:299 Dinoflagellate, D:174 Five, The Flare, Solar Euglena, E:353 Rimsky-Korsakov, Nikolai, R:278 Auroга, **A:747** Protozoan (Flagellates), P:818 with pic-Fives (sport), F:197 Magnetic storm, M:53 Fixation Magnetism (The magnetism of the Slime mould, S:487 Freud, Sigmund (On behaviour), F:457 Sponge (Special cells), So:235 sun), M:57 Reading (How we read), R:151 Sun (The sun's brightness), So:409; Flageolet Imusical instrumentl, F:218 Fixative (table) So:410; (The sun's activity) Flagstad, Kirsten (Norweglan singer), Perfume (Animal substances), P:280 So:416 F:218 Fixed ammunition Sunspot (Recent findings), So:427 Grieg, Edvard, G:374 Ammunition, A:336 Van Allen belts, V:305 Flagstick Fixed-blade knife Flare Golf (The course), G:245 Knife, K:297 Rainmaking (Rainmaking methods), Flaherty, Robert Joseph (American Fixed capital R:121 film director), F:218 Capital, C:143 Flare Path (play by Rattigan) FlatI (implement), F:218 National income (Changes in national Rattigan, Sir Terence, R:144 Wheat (The mechanization of wheat Income), N:35 Flash burn farming), W:224 Fixed coil Nuclear weapon (Thermal radiation), Wattmeter, W:102 Flaking grit N:337 Maize (The dry-milling industry), M:74 Fixed cost Flash camera Flamboyant tracery Industry (Structure), E:224 Camera (Point-and-shoot cameras), Fixed-focus camera Tracery, T:323 C:57 Camera, C:56 Flame Flash distillation Fixed joint [anatomy] Fire, F:125 Distillation, D:203 Flame of Life, The book by D'An-Human body (The skeletal system), Water (Distillation), W:79 with diagram H:351 nunzio) Flash fill-in D'Annunzio, Gabriele, D:31 Joint, J:136 with picture Photography (Back lighting), P:446 Fixed oil Duse, Eleonora, D:356 with picture Flame test [chemistry], F:218 Oil, 0:419 Flash flood Mineral (Other identification tests), Fixed-pitch propeiler Flood (River floods), F:229 Aeroplane (Propellers), A:93 M:486 Flash smelting Flame thrower [weapon], F:218 with Propeller (Aeroplane propellers), Smelting, S:497 P:808 picture Flashback Fixed platform Flame tree, F:219 with picture Hallucinogen, H:25 Petroleum (Offshore drilling), P:344 Australia, A:774 Flashbulb Fixed star [astronomy], F:197 Flamefish Photography (Lighting equipment), Fixer, The (book by Malamud) Fish picture on, F:163 P:451 Malamud, Bernard, M:77 Flamenco (dance), F:219 Flat-bed cylinder press Spain (Music), So:175 with picture Fixer (chemical) Printing, P:783 with picture Flamingo, F:219 with picture Photography (Developing black-and-Flat Bird picture on, B:340 white film), P:452 House, H:321 Flxture Flammability test Housing (Private housing projects), Fire prevention picture on, F:135 Toolmaking, T:297 H:329 with picture Fizeau, H. L. [French scientist] Flammarion, Camille [French author], Flat [music] Optics (History), 0:480 F:220 Music (Notes), M:729; (Indicating Flanagan, Edward J. Ilrish priest Flord pitch) M:732 See Fiord Boys Town, B:504 Flaccus, Valerius (Roman political Flat (scenery) Flanders [N. Europe], F:220 with maps

Belgium (Population and ancestry),

B:223

B:215; (Recent developments)

Cato, Marcus Porcius, the Elder, C:268

Latin literature (The Imperial Period),

Dog (Medical care), D:238

Baudelaire, Charles, B:158 Flat-coated retriever, F:221 with pic-Insect picture on, 1:244 Flexible exchange rate [economics] Flea circus Money (International finance), M554 Flea, F:224 Flat colour printing Fleabane, F:224 with picture Flexible kite Printing, P:786 Flecker, James Elroy (British poet), Kite (Types of kites), K:291 Flat-file database Flexible manufacturing system F:225 Database, D:40 Flat kite Fleece Machine tool, M:15 Kite (Types of kites), K:291 Hair, H:10 Flexible response [warfare] Nuclear weapon (Nuclear weapons in Flat-plate collector Karakul, K:193 with picture Sheep (Breeds of domestic sheep), military planning), N:338 Energy supply (Solar energy), E:249 Flexible work scheduling Solar energy (Solar heating), So:24 S:339 Flat-slab dam Wool, W:310 with picture Wages and hours (Hours), W:2 Fleet Prison [London], F:225 Flexitime Dam (Kinds of dams), D:12. Fleet Street [London], F:225 Flatboat [barge], F:221 with picture Wages and hours (Hours), W2 Fleming, Sir Alexander (British scien-Flatfish, F:221 Flexographic printing See also list of Related Articles tist], F:225 with portrait Printing, P:786 Flatfoot [disorder], F:221 Antibiotic (History), A:458 Flexor Flattop Fungi, F:486 Hand diagram on, H:38 Aircraft carrier, A:205 Medicine (The medical revolution), Muscle, M:714 **Flatulence** M:317 Flextime Peppermint, P:270 Penicillin, P:258 See Flexitime Flatworm, F:221 Science (How scientists work), 5:141 Flextrack Animal (A classification of the animal Fleming valve Railway, Model, R:113 Vacuum tube (Development of the vackingdom), A:414; picture on Flexure [physics] Strength of materials (How materials uum tube), V:299 Animal (Adaptations for moving Fleming, Ian Lancaster [British author], react to force), So:353 about), A:396 F:225 **Flicker** Disease (Other infectious diseases), Fleming, Sir John Ambrose (British Bird picture on, B:328 D:191 electrical engineerl, F:225 **Flickertail State** Eye picture on, E:443 Electricity (Electrons and electricity). North Dakota, N:260 Invertebrate, 1:322 Industrial Revolution (Spinning mir Parasite (Parasites that feed on people Invention (The 1900's), 1:319 and animals), P:171 Vacuum tube (Development of the vacchines), I:213 Worm, W:411 uum tube), V:299 **Flight** Aeropiane (Flying an aeropiane), Aff Flaubert, Gustave [French author]. Fleming, Sir Sandford [Canadian civil F:222 with portrait with diagrams engineerl, F:226 Aeroplane (How an aeroplane files), De Maupassant, Guy, D:100 Flemings [people], F:226 French literature (Realism), F:448 Belgium (Population and ancestry). A:95 with pictures Aeroplane (Power for flight), A:94 Novel (France), N:312 B:215; (Language) B:217; (Recent Flavian Amphitheatre developments) B:223 Flight deck (ship) Colosseum, Cl:190 with picture Flemish bond Aircraft carrier, A:205 Flavian emperors Brick (Bonds), B:559 with picture Flight envelope Test pilot (Experimental test pilots) Rome, Ancient (The height of the em-Flemish language pire), R:381 Belgium (Languages), **B:217** T:161 Flavonoid Flight instrument Flemish literature Aeroplane (The controls and instru-Citrin, Ci:17 Belgium (Arts), B:218 Flavour Flemish period [art] ments), A:93 Spice. So:216 Flight into Egypt [religion] Painting (The Flemish style), P:57 Scuipture (The 1000's), S:209 with pl Taste, T:65 Flenser Flavoured wine Whale (Processing whale products), Wine, W:273 W:213 Flight log Aeroplane (Learning to fly), A:101 Flavouring agent Flesh [anatomy], F:226 Food additive, F:304 Flesh-eating animal Flight navigation Aeroplane, A:101 with diagrams Flax, F:222 with pictures See Carnivore Clothing (Natural materials), Cl:106 Flesh-eating plant Flight safety Aerospace medicine (Improvements Fibre (Natural fibres), F:67 See Insectivorous plant Linen, L:292 flight safety), A:108 Fleshing Linseed oil, L:297 Leather (How leather is made), 1:141 Flight shooting Maoris (Clothing), M:175 Fletcher, John (English playwright), Archery, A:508 New Zealand, History of (The flax and F:226 Flight stresses Aerospace medicine (Studies of 18 timber industries), N:167 Beaumont, Francis, B:175 sponses to flight stresses), Add Flaxman, John [British designer], F:224 Fletching Archery (Arrows), A:507 with diagram Aerospace medicine, A:107; (Improve with portrait Flight surgeon Flea beetle Fleur-de-lis (heraldry), F:226 with picment of flight safety) A:106 Potato (Diseases and insect pests), ture P:720 Heraldry picture on, H:159 Flight training Flea (insect), F:224 with picture Astronaut, A:682 Iris, 1:379 Cat (Veterinary care), C:253 Bird (Birds of Australia and New Zer Fleurs du mai, Les ipoetry by Baude-Flightless bird

lairel

Florence, Cathedral of [Italy] Floating rib land), B:332 Architecture (Early Renaissance archi-Bird (How birds move), B:341 Rib. R:260 tecture), A:526 with picture **Fioatplane** Bird (On land), B:342 with picture Brunelleschi, Filippo, B:601 Bird (The Australasian realm), B:319 Aeropiane (Seaplanes), A:89 Campanile, C:62 with picture Flocculi (light) Prehistoric animal picture on, P:747 Sculpture (Kinds of sculpture), S:190 Flinders, Matthew [British navigator], Sun (Sunspots), So:416 Florence, Council of [1439] Flock F:227 Roman Catholic Church (The close of Australia, History of (Maritime explora-Bird picture on, B:318 the Middle Ages), R:341 Flodden, Battle of [1513] tion), A:802 Scotland, History of (The Renaissance Florentine embroidery Bass and Flinders, B:142 Needlepoint picture on, N:67 kings), S:171 Franklin, Sir John, F:426 Florentines (people) Investigator, 1:322 Florence (People), F:232 See Iceberg Kangaroo Island, K:188 Northern Territory (History), N:285 Flogging Indonesia (table), I:187 Convicts in Australia (Punishment), Port Phillip Bay, P:694 Flores Island [Azores], F:233 Queensland (Early settlement), Q:25 Florey, Lord (British bacteriologist), Flood, The [painting by Uccello] South Australia (Exploration), So:114 Uccello, Paolo, U:2 Flinders Chase Antibiotic (History), A:458 Flood [geography], F:228 with pictures Kangaroo Island, K:188 Chain, Sir Ernst Borls, C:336 Disaster (Natural disasters), D:187; Flinders Island, F:228 Penicillin (History), P:259 (table) D:188 Tasmania map on, T:55 Hurricane picture on, H:387; (Destruc-Floriculture, F:233 Flinders Range (South Australia), F:228 Florist, F:236 tive power) H:388 South Australia, So:110; picture on Florida (United States), F:233 with pic-River (The channel of a river), R:289 So:105 tures and map Water picture on, W:68 Flint [mineral], F:228 Ponce de León, Juan, P:666 Flood control Fire (Methods of starting fires), F:126 Florida Keys (tslands, U.S.A.), F:235 Flood, F:229 Quartz (Types), Q:8 Florida pompano Flood current Rock (Chemical sediments), R:308 with Fish picture on, F:161 Tide (High tides and low tides), T:242 picture Pompano, P:664 with picture Flood irrigation Fint maize Florida Southern College Irrigation, 1:407 with picture Maize, M:72 Wright, Frank Lloyd picture on, W:417 Fintlock (weapon), F:228 with picture Flood plain (geography) Florin [money], F:235 Flood (Reducing flood losses), F:230 Handgun (Early handguns), H:43 with Florist, F:235 with pictures picture with diagram Flotation cell Highwayman, H:199 Plain, P:531 Copper (Milling), Cl:342 River (The channel of a river), R:289 Rifle picture on, R:275 Flotation process, F:236 Filntshire [Wales], F:228 Valley, V:303 Flotation process, F:236 Flipper Flood Tablet Copper (Milling), Cl:342 Babylonia picture on, B:14 Dolphin (The bodies of dolphins), Gold (Flotation), G:232 Floor covering D:252 Lead (How lead is obtained), L:125 Interior decoration, 1:286 Seal, S:225 Flotation reagent Whale (Body shape), W:208 with dia-Floor loom Flotation process, F:236 Weaving (Kinds of looms), W:125 Flotsam, jetsam, and lagan, F:236 Float Floor price Flounder, F:236 with picture Price (Government intervention), P:774 Fishing (Fishing equipment), F:183 Fish picture on, F:173 Float ifabric Flooring, F:230 Flour beetle, F:238 House (Floors), H:324 Damask, D:17 Flour [food], F:237 with pictures Interior decoration (Floor coverings), Float (plumbing) Bran. 8:522 Automation (Early automation), A:875 H285 Bread, B:547 Plumbing (How tollets work), P:603 Linoleum, L:296 Wheat (Food for people), W:215 with diagrams Mosaic, M:622 Flour maize Float [tooi] Rugs and carpets, R:449 Maize, M:72 Plaster (Plastering), P:576 with picture Floppy disk Flour milling Float fishing Computer, Personal (Hardware), Bran, B:522 Flshing, F:184 picture on F:186 CI:269 Floury miller [insect] Floating Flora, F:231 Cicada, Ch1 Drowning, **D:310** Fauna, F:37 Flow chart Swimming (Water safety), So:483 Fioral bract [botany] Computer (Preparing a program), Pineapple (The pineapple plant), P:505 Floating dock [shipping] Cl:261 Dry dock (Floating dock), D:327 Floral organ Flow meter Floating exchange rate Grass (The grass plant), G:301 Water meter, W:87 Balance of payments (Balance of pay-Florence [Italy], F:231 Flower arranging ments and exchange rates), B:37 Florin, F:235 Flower, F:266 with pictures Devaluation, D:144 Medici, M:305 Flower, F:239 with pictures Economics (World finance), E:64 Michaelangelo, M:433 See also list of Related Articles Painting (The Renaissance in Florence), Exchange rate, E:413 Bud, B:612 Money (International finance), M:554 Cotton (The cotton plant), Cl:382 with P:54 with pictures Floating Opera, The book by Barth Renaissance (The Italian Renaissance),

R:215 with map

Barth, John, B:120

pictures

284 Flower breeding

Fluorescence, F:273 with pictures

Fluorescent lamp, F:274 with picture

Electric light (Gaseous-discharge

lamps), E:150

Invention picture on, I:312

Fishing (Fishing equipment), F:183 Lighting (Lighting devices), L:270 Plant. P:555 with pictures with picture Vegetable (Flower clusters), V:321 Fluoridation, F:274 Fly shuttle Dentistry (Modern dentistry), D:121 Flower breeding Cotton (England), Cl:388 Flower, F:266 Teeth (A good diet), T:92 Fly, Artificial Fluoride Flower Drum Song Imusical by Ham-Fishing (Bait), F:184 Fluoridation, F:274 merstein] Flycatcher with picture, F:280 Hammerstein, Oscar, II, H:32 Fluorine, F:275 Flyer [aeroplane] Hydrofluoric acid, H:401 Flower Fables [book by Alcott] Aeroplane (The Wright brothers), A71 Teeth (A good diet), T:92 Alcott, Louisa May, A:240 with picture Fluorine (element), F:275 Flower garden **Flying** Gardening, G:34 with pictures Halogen, H:25 Aeroplane (How an aeroplane flies) Fluorite Flowering Judas (book by Porter) A:95 with pictures; (Flying an Fluorspar, F:276 Porter, Katherine Anne, P:697 Mineral picture on, M:485 aeroplane) A:97 with diagrams Flowering maple [shrubs], F:272 with Bird (How a bird flies), B:341 with picpicture Fluorocarbon, F:275 Aerosol, A:107 tures Flowering plant Daedalus, D:3 Plant (Sexual reproduction), P:556 with Fluorocarbon rubber Insect (Wings), 1:250 pictures Rubber, R:437 Mammal (In the air), M:131 Fluoroscope Flowering quince Fluoroscopy, F:275 with picture Flying boat Quince, Q:29 Aeroplane (Engineering Improve-Flowering shrub [plant] Radiology, R:91 ments), A:83; (Seaplanes) A:89 Flower (Garden perennials (Flowering Fluoroscopy, F:275 with picture Aviation (The industry comes of agel, shrubs)), F:249 with pictures Fluorospar, F:276 A:884 with picture Fluothane Flowering tobacco, F:272 with picture Flowerpecker, F:272 Halothane, H:26 Fiying buttress (architecture) Architecture (Gothic architecture), Flush book by Woolfi Flowers of sulphur [chemistry] Sulphur (Forms), So:401 Woolf, Virginia, W:313 A:524 Cathedral (Architectural history), C284 Flowing artesian well Flute (architecture) Gothic art (Early Gothic architecture), Well (Water wells), W:144 Column, Cl:213 with diagram G:263 Sculpture (Greek sculptors), S:192 Flowing tracery (architecture) Notre Dame, Cathedral of [France], Flute imusical instrument), F:276 with Tracery, T:323 N:306 Flu pictures Flying Carpet, The book by Hallibur Influenza, I:232 Music (Woodwind Instruments), M:728 with picture tonl Flue pipe Halliburton, Richard, H:23 Organ (Pipe organs), 0:493 Fluted point [weapon] Flügelhorn [musical instrument], F:272 Folsom point, F:291 Flying crane Helicopter (For transportation and Indian, American (Early days), 1:150 Fluid (physics), F:272 construction work), H:138 Friction, F:459 with picture Flying Doctor Service, F:280 with plo Liquid, L:304 Flutter kick Physics (Fluid and plasma physics), Swimming, So:484 ture Australia (Transportation), A:775 Flux [chemistry], F:276 P:474 Aviation (General aviation activities), Iron and steel (Raw materials), I:390 Viscosity, V:408 with picture A:879; picture on A:880 Fluid dynamics Smelting, S:497 Flynn, John, F:283 Welding (Fusion welding), W:142 Aerodynamics, A:70 Flying dragon [reptile], F:281 with pic Mechanics, M:303 Flux line imagnetism! Magnetic equator diagram onl, M:51 Fluid film bearing ture Animal (Interesting facts about anl-Bearing (Plain bearings), B:173 with Magnetism (Magnetic field), M:55 with mals), A:377 with picture picture diagram Flying Dutchman, The lopera by Will Fluid physics Maxwell, M:273 Physics, P:474 Van Allen belts, V:305 ner Flying Dutchman, F:281 Fluid planet (astronomy) Fly agaric (fungus) Jupiter (Surface and atmosphere), J:171 Mushroom (Poisonous mushrooms), Wagner, Richard, W:3 Flying Dutchman (legendary ship), M:724 Fluidic engine Hydraulic engine, H:396 Fly ash F:281 Coal (Coal as a fuel), Ct:121 Fluidized-bed combustion Flying fish Coal (Pollution control), Ci:132 Fly (insect), F:277 with pictures See Flyingfish Flying fox [animal], F:281 See also list of Related Articles Fluke [fin] Bat (The body of a bat), B:145; (Kinds of Biology picture on, B:307 Dolphin (The bodies of dolphins), Fishing (Bait), F:184 bats) B:148 D:252 Fluke [flatworm], F:273 with picture Flying hatchet fish Flower (Pollination by beetles and Fish picture on, F:152 flies), F:264 Animal (Importance of animals), A:378 Flying lemur (animal), F:281 with pic Worm (Flatworms), W:411 Typhoid fever (Cause and spread), T:487 ture Fluor Fly (river, New Guineal, F:280 Flying lizard Fluorspar, F:276

Papua New Guinea, P:152

and outs), B:129

Baseball (Base runners-advancing

Fly out

Fly reel

See Flying dragon

Flying saucer

Flying shuttle

Flying Pieman Inicknamel, F:282

Unidentified flying object (UFO), US

Folk literature

Folk metre

Folklore, F:289

Poetry (Stress metres), P:611

Hargreaves, James, H:60 Invention (Why people invent), 1:310 Kay, John, K:203 Lancashire picture on, L:41 Textile industry (The Industrial Revolution), T:175 Flying squirrel [animal], F:282 with picture Flying top Helicopter (Development of the helicopter), H:141 Flying Yorkshireman, The book by **Knight** Knight, Eric, K:298 Flyingfish, F:282 with picture Animal picture on, A:395 Fish picture on, F:160 Flynn, Errol (American actor), F:283 Fivon of the Inland Flynn, John, F:283 Flynn, John (Australian religious leader), F:283 with portrait Pitcher plant, P:524 Venus'-flytrap, V:343 Flyway Bird (Where birds migrate), B:337 Governor, G:278 with diagram Flywheel (engineering), F:283 with pic-Car (The transmission), C:156 Machine diagrams on, M:11 Petrol engine (Parts of a reciprocating petrol engine), P:332 Starter (Car starters), So:295 with diaarams Transmission (The clutch), T:342 Frequency modulation, F:455 Fm (symbol) Fermium, F:55 Feale, Michael (British astronaut) Space exploration (European nations), So:161 Foam extinguisher Fire extinguisher, F:134 Foam glass Glass (Kinds of glass), G:190 Foam rubber Rubber (Sponge rubber), R:436 Foaming Plastics, P:582 Focal length Lens (Converging lenses), L:174

Magnifying glass, M:60

work), T:115

work), T:113

H:141

W:373

Focus [geometry]

Focke, Heinrich [German Inventor]

World War I (The last campaigns),

Helicopter (Early helicopters (picture)),

Focal plane

Telescope (How optical telescopes Telescope (How optical telescopes Foch, Ferdinand (French military leaderl, F:283 with portrait

Ellipse, E:217 with diagram Parabola, P:158 Focus [optics] Aberration, A:11 with diagrams Eye (How we see), E:437 Lens (Converging lens), L:174 with diagrams Mirror (Convex mirrors), M:507; (Concave mirrors) M:507 Photography (Focusing the Image), P:442, P:446 Telescope (How optical telescopes work), T:113 Fodder [agriculture], F:284 Invention (The Industrial Revolution), Foehn [weather], F:284 Switzerland (Climate), So:497 Weather (Geographical features), Wind (Local winds), W:268 Foetus See Fetus Fog [weather], F:284 with pictures Weather (Moisture), W:112 Foghorn Siren, S:455 Foil (boat) Hydrofoll, H:401 Foll [weapon] Fencing, F:50 with picture Foil-electret microphone Telephone (The transmitter), T:106 Fokine, Michel [Russian dancer], F:285 Ballet (Russian ballet), B:56 Fokker, Anthony Herman Gerard Dutch engineerl, F:285 Folate Nutrition (Vitamins), N:364 Fold mountain Mountain, M:666 with diagram Folding knife Knife, K:297 Foley, Larry [Australian boxer] Boxing (Boxing In Australia and New Zealand), B:498 Folger Shakespeare Library, F:285 Folger, Henry Clay (American bibliophilel Folger Shakespeare Library, F:285 Folic acid Nutrition (Vitamins), N:364 Vitamin (table), V:411 Folio [publishing], F:285 Shakespeare, William, S:324 with picture Folk art Sculpture (American sculpture), S:214 Folk (people) Folklore (Origins of folklore), F:287 Folk costume Clothing, Ci:88 Folk dancing, F-285 with picture

Dancing with picture, D:23

styles), 1:94

Folk doll

India, Dance and music of (Other

Doll (Traditional dolls), D:244

Square dancing, So:244 with picture

Folk music, F:286 See also list of Related Articles Music (Popular music), M:734 Folk song Folk music, F:286 Folklore, F:289 Folk tale Folklore, F:289 Storytelling (The 1800's), So:340 **Folkestone** Kent, K:218 Shepway, S:353 Folklore, F:287 with pictures See also list of Related Articles Berkshire, B:245 Lang, Andrew, L:47 Moon, M:594 Folkways (book by Sumner) Mores, M:605 Follicle lanatomyl Acne, A:24 with diagram Hair (The structure and growth of hair), H:11 Thyroid gland, T:234 Follicle (zoology) Egg (Development of a bird's egg), F:98 Foliicle-stimulating hormone Hormone (Growth and sex hormones), R:278 Menstruation (The four phases of the menstrual cycle), M:350 Oestrous cycle (Environmental regulation), 0:414 Follies (architecture), F:291 Follow-up letter Letter writing (Letters of application), **Following spot** Sunspot (How sunspots form), So:427 Folsom point (weapon), F:291 with pic-Fonck, René [French aviator] War aces, W:34 World War I (The war in the air), W-370 Fonda, Henry [American actor], F:291 with picture Film industry (Best performance by an actor), F:96 Fonda, Jane (American film actress), F:291 with picture Film industry (Best performance by an actress), F:97 Fonseca, General Manoel Deodoro da (president of Brazil) Brazil (Birth of the republic), B:545 Fontainebleau (France), F:291 with pic-Architecture (Later Renaissance architecture), A:527 with picture Fontane, Theodor [German author],

F:292

Fontanne, Lynn [American actress],

Calorie, C:44

Food chain

Diet (Diets for losing or gaining

weight), D:170

Animal (Adaptations for eating), A:398 Nutrition, N:362 Lunt, Alfred, L:416 Food web Ecology (Energy flow), E:57 Fonteyn, Dame Margot [British balle-Animal (Adaptations for eating), A338 Fish (Fish in the balance of nature), rinal. F:292 with portrait Ecology (Energy flow), E:57 F:153 with picture Ballet (Ballet in Britain), B:57 Fish (Fish in the balance of nature), Forest (The flow of energy), F:350 Nureyev, Rudolf, N:351 Ocean (The food cycle), 0:394; (Dis-Fontwell Abbey coveries) 0:400 Food, Frozen, F:302 Wiltshire (History), W:266 Birdseye, Clarence, B:361 Pesticide (Pesticides and the environ-Foo-chow Cryobiology, Cl:468 Fuzhou, F:510 ment). P:319 Food preservation (Freezing), F:307; Sun (Heat and light for life), So:411 Food, F:293 with pictures See also list of Related Articles with (Freeze ng) F:307 Food colouring Food additive (Kinds of additives), Nitrogen (Uses of liquid nitrogen), the Food article N:223 Algae (Green algae), A:250 Food crop Refrigeration, R:183 Allergy (Diagnosis and treatment), Fool of the Family, The book by Crop, Cl:453 A:274 Animal (Providing food), A:406 Food cycle Kennedy) Kennedy, Margaret, K:218 Ocean, 0:394 Balance of nature (Competition for Foolish seedling disease food), B:35 Food fish Gibberellin, G:152 Fish (Food and game fish), F:153 Bird, B:317; (How birds get food) Fool's gold B:339 Food garden Gardening (Kinds of outdoor gardens), Mineral picture on, M:484 Convicts in Australia (Convict life), Pyrite, P:876 Cl:323 G:35 **Food Industry** Foot (animal) Cooking, Ci:334 Egg (Uses of eggs), E:98 Food, F:293, F:298 Bird, B:351 with pictures Growth (Factors affecting human Food poisoning, F:305 Clam. Ci:50 Horse picture on, H:293 growth), G:388 Bacteria (Harmful bacteria), B:20 Insect (The bodies of insects), I:248 Hinduism, H:212 Botulism, B:486 Horse (Care of a horse), H:298 Camping (Safety), C:68 with picture Mollusc (Univalves or gastropods), Judaism (Dietary laws), J:156 Mycotoxin, M:748 M:535; (Bivalves) M:535 Leaf (How a leaf makes food), L:130 Poison (Kinds of poisons), P:620 Oyster (Young), O:540 Maize (Food for people), M:71; (Live-Ptomaine poisoning, P:834 Snall, So:501 with picture and diastock feed) M:71 Salmonellosis, S:54 Mammal (What mammals eat), M:130 Food preservation, F:305 with pictures gram Spider diagram on, So:220 Monosodium glutamate (MSG), M:570 See also list of Related Articles with Foot lanatomyl, F:316 with diagram Nutrition, N:362 this article Nutrition (Basic food groups), N:364 Food processing Bunion, B:645 with pictures Air conditioning (In business and In-Flatfoot, F:221 Ocean, 0:389 with picture dustry), A:190 Foot [poetry] Palm (Products of palms), P:107 Cooking, Ch333 Metre [poetry], M:384 Poetry (Foot-verse metres), P:612 Plant. P:542 Food (Processing), F:299 Foot [unit of measure], F:317 Potato, P:718 with pictures and dia-Sanitation, S:74 Weights and measures (table), W:138; Food production (Length and distance) W:137 Protein, P:813 with pictures Food supply (The relation between Foot, Michael [British politician] Reptile, R:233 food production and population), Foot, F:316 with portrait Rice, R:262 with diagrams F:312 with diagrams; (The growth Labour Party (History), L:4 Seed (How people use seeds), \$:237 in food production and popula-Foot, Sir Dingle Mackintosh (British Soybean, So:124 with diagram tion) F:313 with diagrams Space exploration (Eating and drink-**Food products** politician] ing), So:137 Agriculture, A:162 Foot, F:316 Foot, Sir Hugh Mackintosh (British Food additive, F:304 Food research Bread (How yeast bread is made), Food, F:301 politician B:548 Food reserve Foot, F:316 Foot-and-mouth disease, F:317 Cancer (Chemicals), C:121 Food supply, F:315 Foot-candle lunit of measurel, F:317 Food preservation (Adding additives), Food service industry Light (The brightness of light), L:263 See Restaurant Lighting (Quantity of light), L:269 Food (Processing), F:299 Food storage Foot-pound [unit of measure], F:317 Food aid programme Camping, C:68 Horsepower, H:310 Food supply, F:309 with pictures Food supply, F:315 **Food and Agriculture Organization** See also list of Related Articles Joule, **]:149** [UN], F:304 Agriculture (Recent developments), Power, P:731 Food supply (Food supply pro-A:176 Work, W:315 Balance of Nature (Ecosystems), B:35 grammes), F:314 Foot survey Archaeology (Locating sites), A:501 United Nations (table), U:169; (Fighting Conservation (To meet demands for resources). Ci:293 hunger) U:173 Poetry, P:612 Football, American, F:318 with pic Hunger, H:384 Food calorie Ocean (Food), 0:389

> Food vacuole [biology] Amoeba, A:338

Food value

See also list of Related Articles

Camp, Walter, C:60

Dallas, D:10

287

skyscraper), B:628 House (The foundation), H:323 Footlight Parade [film] Cagney, James, C:15

Featnote, F:336 Book (Inside a book), B:454 Footprinting, F:336 with picture For Love Alone (book by Stead) Stead, Christina, So:307 For Me and My Gal [film] Kelly, Gene, K:212 For Whom the Bell Tolls work by

Hemingway! Hemingway, Ernest, H:148 Forage

Alfalfa (History), A:248 Cattle (Feeding), C:276 Conservation (Conservation of grazing lands), Ci:296 Crop, Cl:453

Forage harvester Hay, H:89 Foraminifera Earth (The Palaeozoic Era), E:27

Ooze, 0:454 Rock (Organic sediments), R:308

Forbears [poetry by Riddell] Riddell, Elizabeth, R:272 Forbes (Australia), F:336

Forbes, Esther (American author), F:337 Forbidden City (district, Beijing)

Architecture picture on, A:518 Belling (The city), B:204 with pictures and maps Ming dynasty, M:489

Forbidden City [Tibet] Lhasa, L:201

Forbush effect

Magnetic storm, M:53 Force (mechanics), F:337 with diagrams

See also list of Related Articles Foot-pound, F:317 G, G:2

Mass, M:244

Motion (The second law), M:647 Work, W:315

Force of Circumstances (book by Beauvoir] Beauvoir, Simone de, B:175

Force pump Pump, P:855 Force situation Baseball (Base runners-advancing and outs), B:129

Ford [river crossing], F:339 Ford, Ford Madox (English author), F:339 with portrait

Ford, Gerald Rudolph (U.S. president), F:339 with portrait Ford, Henry |American businessmanl,

F:339 with portrait and pictures Aviation (Aviation progress), A:883

Car (The United States car industry), C:168: (The Detroit pioneers)

C:168 with picture Ford Motor Company, F:341

Mass production, M:245

Ford, Henry, II American car manufacturer), F:340

Ford, John American film director), F:341 with portrait

Ford, John [English dramatist], F:340 Ford Motor Company, F:341

Car (Henry Ford), C:168; (Car production) C:170

Ford, Henry, F:339 Ford, Henry, II, F:340 Manufacturing (table), M:168

Ford: The Times, the Man, the Company [book by Nevins]

Nevins, Allan, N:106

Ford Tri-Motor [aeroplane] Aeropiane (The golden age), A:80 with picture

Aviation picture on, A:684

Forde, Francis (Australian politician), F:341

Ford's Theatre

Booth, John Wilkes, B:464 Lincoln, Abraham (Assassination),

Fordyce, Bruce (South African athlete), F:341

Forearm [anatomy]

Arm, A:577 Forebrain

Brain (In vertebrates), B:518

Forecast

Horse racing (Betting), H:308 **Forecaster**

Meteorology, M:381 Forecasting

Weather, W:118 with pictures

Forecastle (ship) Caravel, C:186 Galleon, G:15

Ship (table), S:363; (The cog) S:367; picture on S:368

Foreclosure

Mortgage, M:621 Foreign Affair, A [film] Dietrich, Marlene, D:170

Foreign affairs International relations (Diplomacy),

1:294 Foreign aid

Africa, A:147 Economics (Developing economies), Truman, Harry S. (First administration), T-427

United Nations (Economic and technical aid), U:170 with picture

Foreign bill of exchange Economics (World finance), E:64

Foreign exchange rate Exchange rate, E:413

International trade (Financing International trade), 1:298

Money (International finance), M:554 with table

Foreign film

Film industry (Postwar realism), F:104 Film industry (The art film revival), F:104 with pictures

Film Industry (The New Wave in France), F:104 with picture

Foreign language study Language (Learning a foreign lan-

guage), L:50 Foreign Legion, F:341 Foreign relations

See International relations Foreign service, F:342

Ambassador, A:301 Attaché, A:731 Consul, Cl:312 Diplomatic corps, D:185

State, Department of, So:296 Foreign trade International trade, 1:297

See also under individual countries London, L:372 Los Angeles, L:392

Phoenicia, P:429 Trade, T:324 Forensic ballistics

Ballistics, B:59 Forensic science

Police laboratory, P:644 Foreordination, F:343

Predestination, P:741 Foreskin (anatomy)

Circumcision, Cl:8 Penis, P:260

Forest and the Fort, The Ibook by Allen Allen, Hervey, A:272

Forest, F:344 with pictures See also list of Related Articles

Africa, A:138

Animal (Animals of the temperate forests), A:386 with pictures

Biome, B:310 with map Conservation (Forest conservation),

Cl:295 with picture

Eucalypt forests, E:346

Flower (Flowers of woodlands and forests), F:252 with pictures Jungle, **J:168**

National Parks, N:37 New South Wales (Economy), N:131

Petrified forest, P:328

Plant, P:546

Tree (Trees around the world), T:361 with pictures

Forest conservation Conservation, Ci:295 with picture Forest elephant

Forest entomology

Forest fire

study), E:298

with picture

ments), H:403

Form [aesthetics]

Forlanini, Enrico Italian inventori

Hydrofoil (Early hydrofoil experi-

Art and the arts (The reasons for art),

Interior decoration picture on, 1:284

Elephant (African elephants), E:203

Entomology (What entomologists

Forster, E. M. [British author], F363 Gestalt psychology, G:143 Fire brigade (Fighting a grassland or forest fire), F:129 Form class (grammar) with portrait Forster, William Edward British polis Forestry, F:358 English language (Grammar), E:281 Forest Heath [England], F:353 Form drag [aerodynamics] cian], F:363 Forest Lapps [people] Aerodynamics (Principles of aerody-Forsyte Saga, The [book by Gal-Lapland, L:63 namics), A:71 sworthy] Forest of Dean (England), F:353 Form in Modern Poetry [work by Read] Galsworthy, John, G:17 Gloucestershire (Land regions), F:213 Read, Sir Herbert, R:149 Forsythia (shrub), F:363 with picture Formal criticism Gloucestershire (Places to visit), G:213 Fort-de-France (West Indies), F364 Forest products, F:353 with table Criticism (Kinds of literary criticism), Martinique, M:233 See also list of Related Articles Fort Dearborn [U.S.A.], F:364 with pic Cl:442 Forest ranger Formal essay ture Forestry, F:357 Essay, E:330 Fort Denison [Australia], F:365 **Forest, Petrified** Formal flower garden Fort Donelson, Battle of Petrifled forest, P:328 Gardening (Kinds of outdoor gardens), American Civil War, A:307 Fort Garry Tree (Fossil trees), T:376 with picture G:35 Forester Formaldehyde | gas|, F:362 Red River Rebellion, R:173 Forestry, F:357 with picture Alcohol (Methanol), A:236 Fort Henry, Battle of Forester, Cecii Scott English author), Aldehyde, A:240 American Civil War, A:307 Fort Knox [U.S.A.], F:365 with picture F:355 Disinfectant, D:199 **Forestland** Fungicide (Organic fungicides), F:487 Fort-Lamy Soil (Soil conservation), So:22 Methanol, M:383 N'Djamena, N:63 Forestry, F:356 with pictures Formalin Fort Peck Dam Dyfed (Agriculture), D:363 with picture Formaldehyde, F:362 Dam (table), D:13 Helicopter (For agricultural and for-Formalism (mathematics) Fort Sumter (U.S.A.), F:365 estry operations), H:138 with pic-Mathematics (Philosophies of mathe-Fort Ticonderoga (U.S.A.), F:365 ture matics in the 1900's), M:260 Fort William (Scotland) **Forestry Commission** Highland Region (Places to visit), Format Conservation (Europe), Cl:302 H:199; picture on H:200 Encyclopedia (Format), E:237 Forever Free (book by Adamson) Formby, George (British comedian). Fort Worth (U.S.A.), F:365 Adamson, Joy, A:32 F:362 Fortaleza [Brazil], F:365 Forever book by Blumel Formed element Forte Blume, Judy, B:411 Blood (The composition of blood), Music (table), M:727 Forfelture [law], F:360 Forth (river, Scotland), F:365 Forge Circulatory system (The blood), Ci:7 Forth Bridge Blacksmith, B:381 Human body (The blood), H:357 Bridge (table), B:565 Forging, F:361 with pictures Former Prophets Ibooks, Old Testa-Firth of Forth, F:150 Forgery (crime), F:360 Scotland picture on, \$:162 ment Forget-me-not, F:360 Forties, The work by Wilson Bible (The Prophets), B:272 Forging lindustrial process), F:361 with Old Testament (The Prophets), 0:427 Wilson, Edmund, W:261 pictures Formic acid, F:362 **Fortification** Aluminium, A:294 Bird. B:343 Castle, C:234 Stately homes (The Middle Ages), Die and diemaking, D:167 Formosa Iron and steel, 1:397 See Taiwan So:298 Forging hammer Formula (mathematics) Fortified milk Forging, F:361 Algebra (Writing formulas), A:254 Milk. M:469 Forging machine Calculus (Functions), C:25 Fortified wine Wine, W:273; (Clarifying and aging the Forging, F:361 Permutations and combinations (By Machine tool, M:17 using symbols and formulas), wine) W:275 Forgive Us Our Trespasses [nove] by P:286, P:287 **Fortissimo** Music (table), M:727; (Indicating ex-Douglas) Formula One racing Douglas, Lloyd Cassel, D:272 pression) M:733 Car racing (Formula One racing). Forgiveness Sunday C:180 with picture FORTRAN Computer (Using programming late Easter (The beginning of Lent), E:42 Føroyar Islands Forked lightning Faroe Islands, F:28 guages), Ci:262 Fortress, The [book by Walpole] Lightning (Forms of lightning), L:273 Forres (Scotland) Walpole, Sir Hugh Seymour, Wi27

Grampian Region (Places to visit),

Forrest, Sir John [Australian explorer]

Forrest, F:362 with map; Western Aus-

tralia (Political events), W:183

Forrest, Alexander | Australian ex-

Forrest, F:362 with map

plorer]

Philosophy (Plato), P:423

Poetry, P:612

Hare, H:59

Form (animal home)

Form [psychology]

Fornestal [shin], N:61

fleet). A:205 Fors Clavigera (book by Ruskin)

Ruskin, John, R:460

Aircraft carrier (The modern carrier

Fortuna (Roman mythology), F:365

Fortunate Life, A [book by Facey]

Fortune Teller, The lpainting by Cart

Caravaggio, Michelangelo Merisi ^{da}

picture on, C:185

Facey, Albert, F:3

fortune Teller, The [work by Herbert] Herbert, Victor, H:162 Fortune Tellers [lllustration] Literature for children, 1:321 Fortune [ship] Phillip, Arthur, P:416 fortunes of Richard Mahony, The book by Richardson] Richardson, Henry Handel, R:268 Fortunetelling, F:366 See also list of Related Articles Divination, D:205 Magic (From the 1500's to the 1700's). M:46 with picture Superstition, Sa:429 44 Duos (music by Bartók) Bartók, Béla, B:121 Forty-Niner (gold-seeker), F:366 42nd Parallel, The Ibook by Dos Passos] American literature (Realist fiction), A:318 Dos Passos, John, D:271 Forum des Halles, Le {Paris} Paris (Paris today), P:183 Forum, Roman, F:366 with picture Rome, Ancient (City life), R:372 with picture Rome (Forums), R:368 with picture forus FeasaÉirinn (poem by Keating) Keating, Geoffrey, K:207 Forward contracting Cotton (Selling), Cl:387 Forward extrusion Extrusion, E:434 Forward rate Exchange rate, E:413 Fosbury flop Athletics (jumping events), A:711 with picture High jump, H:193 with picture Fosbury, Dick (American high-jumper) Athletics (jumping events), A:711 with picture High Jump, H:193 Foscolo, Ugo (Italian author), F:367 Italian literature (The baroque period and the Age of Reason), I:445 Fosse Way Roman roads, R:347 Fossey, Dian (American zoologist), F:367 with picture Fossii igeologyi, F:368 with pictures See also list of Related Articles Antarctica picture on, A:437 Coal picture on, Ct:119 Dinosaur, D:175; (Learning about dinosaurs) D:181 with pictures Earth (The earth's crust), E:20 Electric power (Fossil-fuelled steam electric power stations), E:158 Evolution (The fossil record), E:409 Foundry, F:374 with pictures Fish (The development of fish), F:178 with picture Gem, G:70 Geology (Experimental geology), G:93

Insect picture on, 1:241

La Brea pits, **L:6**

Photocomposition, P:433 Ocean picture on, 0:387 Prehistoric animal, P:743; (Interpreting Type, T:483 Typewriter (Parts of a typewriter), fossil evidence) P:749 with picture Prehistoric people, P:750; (Prehuman T:486 Fount master ancestors) P:751 with picture; Printing (Typesetting), P:781 (table) P:759 Fountain and the Tomb book by Mah-Radiocarbon, R:90 fouzl Resin. R:238 Mahfouz, Naguib, M:68 Rock, R:307 Fossil fuel Coal (How coal was formed), Ci:120 Conservation (Energy conservation), Electric power (Fossil-fuelled steam electric power stations), E:158 Taftl Energy supply, E:247 Fuel, F:477 Greenhouse effect, G:360 Nuclear energy (The role of nuclear energy in power production), Sun (The sun as an energy source), So:411 Fossil-fuelled steam electric power station Electric power, E:158 Foster parent, F:374 Bird. B:348 Children In care, C:412 Foster, Stephen Collins | American Fountain pen songwriter), F:374 with portrait Foucault pendulum Pen. P:250 Pendulum (Other pendulums), P:254 with picture Foucault, Jean Bernard Léon French scientisti, F:374 Gyroscope (History), G:446 Optics (History), 0:480 Pendulum (Other pendulums), P:254 with picture Foul Boxing (Fight rules), B:496 Football, Association (Fouls and misconduct), F:328 Foul territory Baseball, B:127 Palladio| Found object [art] Sculpture (Assemblages), S:216 with picture ihaokl. Foundation Building construction (Parts of a building), B:626 W:150 House, **H:323** Four-eyed fish Pile, **P:499** Foundation Day, F:374 Foundation of the Complete Theory of Knowledge [book by Fichte] Fichte, Johann Gottlieb, F:69 Founder effect Races, Human, R:49 Founding [industrial process] Foundry, F:374

minium), A:292

Heat picture on, H:115

1:391

Fount

Fountain [water], F:375 with picture Rome (Churches, palaces, and fountains), R:364 with picture Fountain of Castalla Parnassus, P:198 Fountain of Columbus (sculpture by Taft, Lorado, T:6 Fountain of Neptune Rome picture on, R:365 Fountain of the Great Lakes |sculpture Taft, Lorado, T:6 Fountain of Time (sculpture by Taft) Taft, Lorado, T:6 Fountain of Youth (legendary spring), Ponce de León, Juan, P:666 Fountain Overflows, The Ibook by West, Dame Rebecca, W:156 Ink (Writing inks), I:235 Fountain (art by Duchamp) Duchamp, Marcel, D:336 Fountains of Rome, The Imusic by Re-Respight, Ottorino, R:239 Four Aposties (painting by Dürer) Dürer, Albrecht, D:353 Four Books (religious books) Religion (Confucianism), R:202 Four Books of Sentences, The book by Duns Scotus) Duns Scotus, John, D:350 Four Books on Architecture book by Palladio, Andrea, P:105 "Four Branches of the Mabinogi" Mythology (Celtic mythology), M:760 Welsh literature (Early literature), Anableps, A:347 Four Freedoms Roosevelt, Franklin Delano (Eve of war), R:389 Four Gospels, The book by Zolal Zola, Émile, Z:501 Four Horsemen of the Apocalypse, The (film) Valentino, Rudolph, V:302 Four Horsemen of the Apocalypse, Aluminium (Casting the molten alu-The [woodcut by Dürer] Four Horsemen of the Apocalypse picture on, F:376 Iron and steel (Making Iron products), Four Horsemen of the Apocalypse [New Testament], F:375 with picture

Fouta Dialion [region]

map

Guinea (Land and climate), G:414 with

Four-in-hand

Eye (Parts of the eye), E:436; Focusing Grass (Kinds of grasses), G:302 Necktie, N:65 Fr [symbol] Four just Men, The [book by Wallace] F:437 Foveaux [book by Tennant] Francium, F:422 Wallace, Edgar, W:24 Fra Angelico [Italian painter], F:381 Four Masters [Irish history], F:376 with Tennant, Kylie, T:140 Aquinas, Saint Thomas picture on. picture Fowl A:486 Chicken, C:395 Four Million, The [book by Henry] Painting (Florentine masters), P.54 km Henry, O., H:154 Poultry, P:726 Fowler, Francis George British lexpicture Four Noble Truths Fra Filippo Lippi [Italian painter] Buddhism, B:615 icographer) Four-o'clock (plant), F:376 with picture Fowler, F:377 Lippi, Filippo, L:303 with picture Fowler, Henry Watson (British lexicog-Fractal Igeometric figure, F-382 with Four-Power Treaty picture Washington Conference, W:63 rapher) Fowler, F:377 Computer graphics picture on Com Four Quartets [work by Eliot] Fowler, Sir John (British engineer), Fraction, F:383 with pictures Eliot, T. S., E:211 See also list of Related Articles F:377 Four Saints in Three Acts (music by Fowler, Sir Norman (British politician), Arithmetic (Working with fractions). Thomson! A:572 Thomson, Virgil, T:224 F:377 Decimal system (Decimals and frac-Four Saints in Three Acts work by Fox, F:377 with pictures tions). D:70 Fur picture on, F:489 Stein] Percentage (How to change percent-Stein, Gertrude, So:312 Fox Itribel Indian, American (Indians of the Northages to fractions), P:274; (Howle Four Seasons, The [music by Vivaldi] change fractions to per cents east), I:152 Vivaldi, Antonio, V:413 Fox and the Crow, The [fable] P:275 Four Seasons, The [play by Wesker] Ratio, R:143 Wesker, Arnold, W:154 Fable, F:3 Fractional distillation Four square theorem Fox and the Grapes, The fable by Distillation, D:203 Number theory, N:343 Aesop] Petroleum (Separation), P:348 Four-stroke cycle engine Allegory, A:272 Diesel engine (Kinds of diesel en-Fable, F:2 with picture Fractionating column gines), D:169 with diagram Fox grape Distillation, D:203 Petrol engine (Cycle), P:331, P:332; dia-Grape (North American grapes), G:297 Fractionating tower Petroleum (Fractional distillation), gram on P:333 Fox hunting, F:380 Four-tailed bandage P:348 England (Recreation), E:267 Fracture [injury], F:390 with diagrams Bandage, B:75 Hunting, H:385 with picture Bone (Broken bones), B:446 Four-wheel drive Fox Islands Car (The drive system), C:157 Aleutian Islands, A:242 First aid, F:146 Fox Talbot, William Henry (British sci-Fourdrinler machine Osteoporosis, O:514 entist], F:380 Rib, R:259 Paper (How paper is made), P:134 Watermark, W:99 Communication (In the early 1800's), Fracture [mineralogy] Gern (Qualities of gem minerals), 670 Fourier, Charles (French socialist), F:376 Photography (Early developments), Fracture callus Bone (Broken bones), B:446 Collectivism. Ci:165 Fourier, Jean Baptiste French mathe-Printing (Developments in platemak-Fragmentary ice Ice (How ice is manufactured), 15 matician) ing), P:787 Fragmentation, F:390 Mathematics (Developments in the Talbotype, T:15 Animal (Asexual reproduction), Asia 1700's), M:260 Fox terrier Fragmentation bomb Sound (The wave theory), So:53 Smooth fox terrier, \$:502 Bomb, B:435 with picture Fourment, Hélène (wife of Rubens) Wire fox terrier, W:278 Fragonard, Jean Honoré (French af Rubens, Peter Paul, R:440 Fox trot (dancing), F:381 Fourneyron, Benoît [French engineer] Fox, Charles James [English statesman], istl. F:390 Painting (Rococo), P:66 with picture Turbine (History), T:451 F:380 Fournier, Pierre-Simon [French type North, Lord, N:245 Rococo, R:328 Frahm, Herbert Ernst Karl designer Fox, George [English religious leader]. Book (The 1600's and 1700's), 9:457 See Brandt, Willy F:380 with portrait Fourteen Hours [film] Peace (From the 1400's to the 1700's), Fram (ship) Amundsen, Roald (The race to the Kelly, Grace, K:213 P:224 South Pole), A:345 Fourth dimension, F:376 with diagram Fox, Sir William, F:380 Nansen, Fridtjof, N:15 Relativity (Special theory of relativity), Quakers, Q:5 R:191; (General relativity theory) Foxe, John (English Puritan teacher), Oslo, 0:510 R:193 F:381 Framboesia Time (Physical time), T:257 Biography (The Renaissance), B:301 Yaws, Y:441 Foxfire Fourth estate, F:377 Frame [film] Film industry (How films work), F31 Will-o'-the-wisp, W:254 Fourth International Television (Video entertainment 5% International, The, 1:288 Foxglove, F:381 with picture **Fourth Republic** Digitalis, D:173 tems), T:121 France (History), F:416 Flower picture on, F:245 Frame construction

Plant (Medicines), P:542

Foxhound, F:381 English foxhound, E:281

Fovea centralis

Foxtali

Building construction, 8:628

Frame of reference

Motion, M:646

Franco, Francisco unity), Y:473 Frame, Janet [New Zealand writer], North Atlantic Treaty Organization, Francis I (Holy Roman emperor) N:258 F:390 Habsburg, House of, H:3 Novel, N:312 Framingham Heart Study Maria Theresa, M:204 Heart (Progress in treatment and pre-Nuclear energy, table on, N:328 Francis I [king of France], F:420 Panama Canal (The French failure), vention), H:113 Cartler, Jacques (Exploration of Can-Framley Parsonage book by Trollopel Paris, P:175 with pictures and maps ada), C:215 Trollope, Anthony, T:412 Exploration (The search for a northern Persian Gulf War, P:296 with picture Framlingham Castle passage), E:422 Police, P:641 Castle picture on, C:237 France (A period of wars), F:413 Porcelain (French porcelain), P:689 Frampton, Sir George (British sculp-Louvre, L:404 Roman Catholic Church (Catholic revitorl. F:390 Francis II [Holy Roman emperor], F:420 Franc Imoneyl, F:390 with pictures val in France), R:342 Rugby Union football (Organization), Money pictures on, M:547; (Exchange A:866 R:445 rates) M:555 Holy Roman Empire (The House of Senegal (History), S:253 France, La (airship) Habsburg), H:252 Seven Years' War, S:282 Airship (The first airships), A:218 Francis II (king of France), F:420 Slavery (Modern times), S:481; (The France, F:391 with pictures and maps Catherine de Médicis, C:266 decline of slavery) S:482 See also list of Related Articles with Mary, Queen of Scots, M:237 Standard of living (table), So:275 the France article Francis Joseph Iruler of Austria-Syndicalism, So:517 Air force (The French Air Force), A:197 Hungaryl, F:421 Theatre, T:202 Algeria (French rule), A:265 Reard. B:172 Thirty Years' War (The Swedish-French Arabs (European domination), A:493 Maximilian, M:273 period), T:221 Aviation (Aircraft nationality marks), Tricolour, T:399 A:BBT United States, History of the (Explora-Ballet (Ballet in Europe), B:57 ture tion and early settlement), U:237 Belgium (Habsburg rule), B:221 Vietnam (Way of life), V:375; (French Bourbon, B:488 1:445 rule) V:380 Canal, C:111 War of 1812, W:35 Car. C:163 Church), R:208 Waterioo, Battle of, W:99 Christmas, C:489 Francis turbine Wine (Wines from France), W:273 Colonialism (History of colonialism), Turbine, T:449 World War I, W:362 Ch186; (Political policies) Ci:187 Francis Xavier World War II (The fall of France), Comoros (History), CI:246 See Xavier, Saint Francis W:384 Decorations, medals, and orders, D:75 Francis, Dick British authorl, F:421 Zouaves, **Z:508** Democracy (French contributions to Francis, Sir Philip (English government France, Anatole | French author|, F:420 democracy). D:104 official) France, Marie de IFrench poet Dien Blen Phu, Battle of, D:168 iunius letters, J:169 Knights and knighthood (Knighthood Education (Control), E:85 Francis, Thomas (American scientist) in literature), K:303 Egypt (Turkish and Frence control), Salk, Jonas Edward, S:52 Launfal, Sir, L:105 E:116 Franciscans (religious group), F:422 Francesca, Piero della Electric power (table), E:161 California (History), C:39 See Piero della Francesca England (War with France), E:279 Francis of Assisi, F:421 Franchise (business), F:420 Flag picture on, F:208 Friar, F:458 Chain store, C:336 Fronde, F:469 Missionary (Organization), M:509; (His-Hotel (History), H:319 Furniture (Louis XIV furniture), F:499

(French styles) F:500 with pictures Geneva Accords, G:82 Germany (Conflicts with France), G:133 Golden Age, G:239 Guadeloupe (History), G:391 Haiti (History), H:18 Hundred Years' War, H:372 Industrial Revolution, 1:217 Italy (The French Revolution and Napo-

Ivory Coast (History), 1:476 Law (The first modern law codes),

leon), 1:468

Library (Famous libraries), **L:233** Local government (Unitary systems),

L:346 Louisiana Purchase, L:402 Madagascar (History), M:26 Mali (History), M:116

Martin of Tours, Saint, M:232 Martinique, M:233; (History) M:233 Mexico (The French invasion), M:421

Morocco (French and Spanish control), M:615

Motel, M:638 Restaurant (Chains and franchises),

R:242 Soft drink (How soft drinks are made),

So:17 Franchise tax

Taxation (Taxes on transactions), T:69 Francia, José Gaspar Rodríguez de

[Paraguayan political leader] Paraguay (Independence), P:166

Francis de Sales, Saint, F:421 Roman Catholic Church (Catholic revi-

val in France), R:342 Francis Ferdinand (archduke of Austrial

Austria (Austria-Hungary), A:867 Austria-Hungary, A:868 Bosnia-Herzegovina (History), B:475 Francis Joseph, F:421 Germany (World War I), G:135 Serbia (History), S:268 World War I (The assassination of an

archduke), W:365 Yugoslavia (The movement for Slavic

Austria (Wars in the 1700's and 1800's),

Rampolla, Mariano Cardinal, R:132 Francis of Assisi, Saint, F:421 with pic-

Italian literature (The Middle Ages),

Religious life (The Roman Catholic

tory) M:510 Religious life (table), R:208

Francium (element), F:422 Alkali, A:269

Franck, César iFrench composerl, F:422

Franco-Flemish sculpture

Sculpture (European sculpture), S:212 with pictures

Franco-Prussian War, F:423 See also list of Related Articles

Balloon (Balloons in war), B:64 France, F:415 Homing pigeon (History), H:257 Napoleon III (His defeat), N:24

Ruhr, R:453 Franco, Francisco (dictator of Spain),

F:422 with portrait Falange Española, F:12 Fascism (Fascism in other countries),

F:31 Juan Carlos I, J:153

Madrid (History), M:38 Spain (Civil War), So:186 with picture

So:187

Spain (Growth and discontent), So:187

Spain (Involvement in the Cold War),

Spain (Recent developments), So:187

Spain (World War II), So:187 Franco, Itamar Augusto Brazilian political leader Brazil (Brazil today), B:546 Frank the Poet [Australian writer] Australia, Literature of (The development of poetry), A:830 Frank, Anne [German-Jewish diarist], F:424 with portrait Diary, D:157 Frankenstein (book by Shelleyl, F:424 with picture Gothic novel, G:264 Science fiction (Beginnings), 5:151 Shelley, Mary Wollstonecraft, S:349 Wollstonecraft, Mary, W:290 Frankenstein [film] Karloff, Boris. K:195 Frankenthaler, Helen [American artist], Frankfurt Assembly [German history] Germany (The Revolution of 1848), G:133 Frankfurt [Germany], F:424 Frankfurt, Treaty of [1871] Franco-Prussian War (End of the War), E4123 Frankfurter [food] Food (Interesting facts about food), F:294 Sausage, S:113 Frankincense, F:425 Frankish kingdom (European history) Charlemagne (Military conquests), C:349; map on C:351 France (History), F:411 Franks, F:426 with map Frankland, Sir Edward (British chemistl. F:425 Helium, H:143 Franklin, Miles [Australian author], F:426 Franklin, Rosalind (British chemist). F:426 Cell (The 1900's), C:304 Franklin, Sir John (English explorer), Arctic (Arctic exploration), A:544 Exploration (table), E:427; (Polar exploration) E:427 with map Franklin River [Australia], F:426 Franklin stove Cooker (History), Ci:333 Franklin, Miles [Australian writer] Australia, Literature of (Novels), A:832 Franklin, Aretha (American singer), Franklin, Benjamin [American statesman], F:425 with portrait Almanac, A:279 American literature (Philadelphia), Colonial life in America (Communication), Ci:182; (Literature) Ci:183;

(Science) Ch183 Cooker (History), Cl:333 Electric circuit, E:143 Electricity (History), E:171 Poor Richard's Almanac, P:671 Kite (History), K:293 Philanthropy, P:364 Rebus, R:161 with picture Franks [people], F:426 with map Charlemagne (Military conquests), C:349 Europe (The Middle Ages), E:385 France (Ancestry), F:398; (History) F:411 Frankfurt, F:424 Germany (Kingdom of the Franks), Catao Lombards, L:364 Merovingian, M:365 Slovenia (History), S:494 Switzerland (Early days), So:499 Franny and Zooey [book by Salinger] Salinger, J. D., S:51 Franz losef See Francis Joseph Franz Josef Land [islands], F:427 Nansen, Fridtjof, N:15 Frasch method Mining (Pumping methods), M:494 with diagram Sulphur (How sulphur is obtained), So:402 Frasch, Herman (American chemist) Sulphur (How sulphur is obtained), 50:402 Fraser Island, F:427 Fraser of the North Cape, Lord (British naval commanderl, F:427 Fraser, Bruce Austin Fraser of the North Cape, Lord, F:427 Fraser, Dawn [Australian swimmer]. F:427 Swimming (History), So:489 Fraser, Lady Antonia (British author) Biography (Biography today), B:302 Longford, L:380 Fraser, Malcolm Iprime minister of Australial, F:427 Frater, William (Australian painter), F:427 Fraternal twins R:227 Fraud (crime), F:427 Fraunhofer lines [light]

Multiple birth (Kinds of multiple birth), Reproduction, Human (Multiple birth),

Sun (The sun's surface), So:414 Fraunhofer, Joseph von (German phys-Astronomy (The development of spectral analysis), A:699 Sun (The sun's surface), So:414 Frazer, Sir James George IScottish anthropologistl, F:428 Magic (Kinds of magic), M:45 Mythology (Frazer's theory), M:764

Freckled darter [fish]

Darter, D:37

Freckles

way) Christian IV, C:482 Frederik IX [king of Denmark] Denmark (Postwar years), D:117 Frederik, F:429 Royal familles (Denmark), R:419 Frederik VII (king of Denmark) Royal families (Denmark), R:419 Frederik VIII [king of Denmark] Frederik, F:429 Free association [government]

Skin (Skin colour), S:470

Heyer, Georgette, H:188

See Frederick I [Holy Roman empend

Frederick Douglass book by Quarles

Quarles, Benjamin Arthur, 0:7

Frederick I [Holy Roman emperor]

Crusades (The Third Crusade), CHR

Germany (The rise of Prussia), Gala

Frederick II (Holy Roman Emperor),

Crusades (Other Crusades), Ch464

Czech Republic (The rise of Bohemia)

Innocent III (Imperial power), I:236

Army (The rise of modern armies),

Germany (The rise of Prussia), G:132

Seven Years' War (In Europe), \$1282

Succession wars (The War of the Aut

trian Succession), So:378

Frederick III (king of Prussia and Ger

Frederick the Great book by Carlyle

Frederick William (ruler of Branden

Berlin (Prussian capital), **B:253**

Frederick William I [king of Prussial

Frederick William III (king of Prussid

Frederick William IV (king of Prussia

Frederik II [king of Denmark and Nor

Germany (The Revolution of 1848).

Aix-la-Chapelle, Congress of, A:220

Louise of Mecklenburg-Strelltz, Like

Germany (The rise of Prussia), G:132

Carlyle, Thomas (Later Career), C203

man emperorl, F:428

burgl, F:428

F-428 Hohenzollern, H:243

Hohenzollern, H:243

Wilhelm I, W:252

G:133

Wilhelm I, W:252

Frederick II (king of Prussia), F:428

Frederica (book by Hever)

Frederick Barbarossa

Wilhelm II, W:252

Adrian IV. A:58

Bohemia, B:420

Alexander III. A:243

Hohenstaufen, H:243 Frederick I (king of Prussia)

Hohenzollern, H:243

Age of Reason, A:182

Ci:520

Gregory IX, G:366

Innocent IV, 1:237

A:594

Hohenzollern, H:243 Prussia (Frederick the Great), P:823

Hohenstaufen, H:243

F>428

F:428

picture

Freehold [law]

Estate, E:334

F:430 with picture Caroline Islands, C:206 Bloemfontein, B:392 Cook Islands, Cl:332 Pacific Islands (Recent developments), South Africa, So:55 Free Association [psychology] Abnormal psychology (Theories of ab-Free-tailed bat Rat (Kinds of bats), B:148 normal psychology), A:12 Freud, Sigmund (On treatment), F:457 Free trade area Psychology (Psychoanalysis), P:830 Customs union, Ch507 Psychotherapy (Analytical psychother-Tariff, T:44 Free trade, F:432 apy), P:831 Free Churches, F:429 See also list of Related Articles with the Free Churches article England (Religion), E:268 Free city, F:430 Free counterpoint (music) Counterpoint, Cl:392 Free electron Electronics (Terms used in electronics), E:185 Free enterprise Business (Business in a free enterprise system), B:673 Capitalism, C:145 Economics (Capitalism), E:61 Trade (The geographical extent of trade). T:326 World (Capitalism), W:323 Free-flight model Aeroplane, Model (Free-flight models), A:106 with pictures Free-flowing agent (chemical) Salt (How table salt is made), S:57 Free form Classical music, Cl:58 Free French (World War II) De Gaulle, Charles André Joseph Marie (Leader of the Free French), D:86 with picture France (World War II), F:415 Free kick Football, Association, F:328 Free market system Capitalism, C:144 Price, P:774 Free mount Fossil (Working with fragments), F:373 Free-piston engine, F:430 with diagram Free ports, F:430 Copenhagen (History), Ch:339 Hong Kong (Economy), H:270 Free position (diving) Diving (Kinds of dives), D:206 Free settlers [Australian settlers], F:430 Free skating

ice skating (Figure skating), 1:14 with

Sculpture (Kinds of sculpture), S:190;

Free State (South African province),

(Later medieval sculpture) S:210

pictures

Free State, Irish

ing), R:334 Free Soll Party

Abolition movement, A:13 Free-standing sculpture

See Ireland, History of

Colonialism (Economic policies), CI:187 Free trade zone Dominican Republic (Way of life), D:258 Tijuana, T:246 Free verse [poetry] Literature (Forms of Literature), L:313 Free verse (poetry), F:432 American literature (Walt Whitman and Emily Dickinson), A:315 Metre, M:384 Poetry (table), P:611; (Forms) P:613 Rock music (Expanding styles and sounds), R:312 Free will, F:433 Metaphysics (Causality), M:379 Freebooter Pirate, P:519 Freedmen's Bureau (American history), F:433 Freedom, F:433 See also list of Related Articles Communism (Restrictions on personal freedom), Ci:240 Democracy, D:101 Existentialism, E:415 Sartre, Jean-Paul, S:93 Freedom Charter | South African His-South Africa, History of (Opposition to apartheid), So:85 Freedom from Hunger, F:436 Freedom of assembly Freedom, F:433 Freedom of religion, F:436 Baltimore, Lord (Cecillus Calvert), B:69 Church and state (The Reformation), C:501 Colonial life in America (Freedom of worship), Cl:177; (The church) Cl:183 Nantes, Edict of, N:16 Freedom of speech, F:436 Civil rights, Ci:40 Democracy, D:101 Freedom, F:433 Freedom of the press, F:437 Roller skating (Competitive roller skat-Democracy, D:101 Freedom, F:433 Journalism (Major issues in journalism), **J:151** Freedom of Will (work by Edwards) American literature (New England), A:310 Freedom [space station] Space exploration (Alpha), So:157 with

Boer Wars), So:83

Freelance lemploymentl South Africa, History of (The Anglo-Commercial art, Ci:219 Writing, W:421; (Script writing) W:422 Freely movable joint lanatomy Human body (The skeletal system), Freeman-Thomas, Freeman Willingdon, Marquess of, W:259 Freemasonry See also list of Related Articles See Masonry Freesia, F:438 with picture Freestone Limestone, L:282 Freestyle [bike model] Bicycle (Juvenile bikes), B:281 Freestyle competition Skiing (Freestyle skiing), S:463 Freethinker, F:438 Freetown [Sierra Leone], F:439 Sierra Leone, S:412 with picture and map Freeze-dried food Space exploration (Eating and drinking), So:137 Freeze-drying, F:439 Coffee (Instant coffee), CI:153 Dehydrated food, D:89 Food preservation, F:307 Taxidermy, T:72 ice cream (How dairy ice cream is made), 1:7 Freezing Fishing industry, F:194 Food preservation, F:307 Frost, F:470 Ice, 1:4 with diagrams Refrigeration (Effects of heat transfer), Water (Fresh water from the sea), W:79 Freezing nucleus Cloud (How clouds form), Ch110 Freezing point, F:439 Heat (Changes in state), H:120 Freight, F:439 Containerization, Cl:314 Railway (Freight trains), R:99; (Passenger and freight cars) R:100 Transportation (Air transportation), T:349; (Freight transportation) T:358 Freight forwarder Aviation (Aviation support Industries), A:880 Freight train Railway, R:99 Freighter Airline (Carrying cargo), A:207 Ship (Classification of cargo ships), S:376; (Multipurpose ships) S:380 Trade picture on, T:325 Freightliner container train

Transportation (Domestic freight),

Freischauutz, Der lopera by Weberl

T:358

Mellophone, M:338

Music (Brass instruments), M:728 with

lamation), W:62 Opera (Romanticism), 0:464 picture Women's movement (Forces of Weber, Carl Maria von. W:127 French impressionism Fréjus Tunnels [France-Italy], F:439 Impressionism, I:46 with picture change). W:294 World, History of the The rise of de-France (Transportation), F:410 French Indochina mocracy and nationalism, was Tunnel (table), T:445 Indochina, I:181 Fremantle [Australia], F:439 with picture Vientiane, V:373 with picture Western Australia (European coloniza-French Revolution, The book by Car-Vietnam (French rule), V:380 tion). W:182 French language, F:443 Fremantle Harbour (Australia) Dialect. D:152 Carlyle, Thomas (Early career), C:203 French Revolutionary calendar O'Connor, C. Y., O:404 English language (Middle English), Western Australia (Political events), E:282 Month. M:580 French Academy, F:441 French Somaliland Frémont, John Charles (American ex-Quebec (The people), Q:11 Djibouti lcountry), D:216 plorer), F:440 with portrait French literature, F:445 French Southern and Antarctic Tem-Frémont: The West's Greatest Adven-See also list of Related Articles tories, F:454 turer (book by Nevins) French Morocco French Sudan French West Africa, F:454 Nevins, Allan, N:106 See Morocco (History) French Academy, F:441 French National Assembly Mali (History), M:116 Institute of France, 1:266 Right wing, R:277 French Suites [music by Bach] French Air Force Rights of Man, Declaration of the, Bach, Johann Sebastian (The Third Pe-Air force, A:197 R:277 riod), B:17 French Alps French Navy French Territory of the Afars and France, F:404 Navy (The world's major navies), N:58 Issas French and Indian war French neoclassical drama Diibouti, D:216 Seven Years' War, S:282 Drama, D:293 French Togoland French Army French opera Togo (History), T:276 Army, A:592 Opera, 0:464 French West Africa, F:454 with map French ballet French overture (music) See also list of Related Articles Ballet, 8:55 with pictures Lully, Jean Baptiste, L:413 French West Indies, F:455 French Bill of Rights [1789] French Without Tears (play by Rattl-Overture, 0:526 Bill of rights, B:292 French Polynesia, F:451 gan) French billiards Austral Islands, A:749 Rattigan, Sir Terence, R:144 Billiards and snooker, B:294 Marquesas Islands, M:216 with picture French, Daniel Chester | American French buildog, F:441 Society Islands, So:10 sculptorl Dog picture on, D:235 Tuamotu Islands, T:430 Sculpture (American sculpture), \$214 French Cameroons [former colony] French porcelain French, John Denton Pinkstone Bill British Cameroons, B:579 ish army officerl, F:440 Porcelain (History of porcelain), P:689 Cameroon (History), C:60 French Revolution, The work by Edward VIII, E:94 French Canada French, Leonard (Australian painter), Blakel Canada, C:71 Blake, William, B:383 E:440 Canada, History of, C:97 French Revolution, F:451 French, Percy [frish singer], F:440 Quebec, Q:11 See also list of Related Articles Frenchman's Creek book by du French Canadians Émigrés, E:229 Maurler Canada (People), C:76 Du Maurier (Daphne du Maurier), Adams, John (Adams' Administration). French chalk D:345 Soapstone, So:1 Bastille, B:145 with picture Frenchman's Rock [Australia] French combing length fibre Charles X [1757-1836], C:352 Baudin, Nicolas, B:159 Freneau, Philip [American poet], F455 Wool (Sorting and grading), W:311 Corday, Charlotte, Ci:350 French cricket (game), F:441 Danton, Georges Jacques, D:32 Freon French Dickens Democracy (French contributions to Fluorocarbon, F:275 Daudet, Alphonse, D:42 democracy), D:104 Frequency band, F:455 French East India Company Europe (Democracy and nationalism), Frequency East India Company, E:40 E:389 Aerial, A:69 French Equatorial Africa, F:441 France, F:394; F:414 with picture Cable (Types of cables), C:4 Ear (The sense of hearing), E:9; (How Central African Republic, C:316 Italy, 1:468 Chad (History), C:333 sounds reach the brain) E:10 Louis XV. L:399 Gabon (History), G:4 Marie Antoinette (The revolution), Electric current, E:143 French Foreign Legion M:206 Electric generator, E:146 Foreign Legion, F:341 Paine, Thomas (English-born revolu-Hertz, H:186 French Guiana, F:441 with pictures and tionary), P:22 with portrait Kilohertz, K:250 Light (The nature of light), L:258 map Painting (Neoclassicism), P:68 French Guinea Paris (The Renaissance), P:183 Pitch, P:524 Quantum mechanics (Understanding French West Africa, F:454 Pitt, William, the Younger, P:526 quantum mechanics), Q:6 Guinea, G:413 Robespierre, R:301 Radio (Kinds of broadcast waves), R:75 French horn [musical instrument], F:443 Roman Catholic Church (The decline of church influence), R:343 with pictures Sonometer, So:42 Horn, H:280 Solitaire, So:30 Sound, So:48 with diagram

Toussaint L'Ouverture, T:313

Washington, George (Neutrality proc-

Telephone (Long-distance lines), Till

Television (Broadcasting), T:131

Friday (book by Heinlein) Dream (The meanings of dreams), Ultrasound, U:17 Heinlein, Robert A., H:135 D-305 Vibration, V:354 Friedan, Betty (American social re-Hypnotism (Scientific studies), H:415 Waves (Characteristics of waves). former), F:459 with portrait iones, Ernest, J:139 W:104 Friendly Islands Jung, Carl Gustav, J:168 Frequency modulated (FM) radar Tonga, T:294 with maps Mental illness (Medical approaches), Radar, R:59 Friendly society [organization], F:459 M:356 Frequency modulation, F:455 Friendly Tree, The work by Day-Lewis Neurosis (Neurosis as a psychological Aerial, A:69 Day-Lewis, Cecil, D:52 mechanism), N:103 Frequency band, F:455 Friendly Wolf, The book by Goble Oedipus complex, 0:413 Radio (Kinds of broadcast waves), R:78 Goble, Paul, G:224 Personality, P:300 Static, So:301 Friends of the Earth lorganization Phobia, P:427 Television (Broadcasting), T:131 Conservation (Europe), Ci:302 Psychoanalysis, P:826 Frequency range Environmental pollution (Agriculture), Psychology (Psychoanalysis), P:830 Sound diagram on, So:48 Psychotherapy (Analytic psychother-Frequency theory Friends, Religious Society of apyl, P:831 Statistics (Probability), So:303 Ouakers, Q:5 Science (To philosophical thought), Frequency Friendship 7 S:139 Electronics (Terms used in electron-Glenn, John Herschel, Jr., G:204 Unconscious, U:21 les), E:185 Friendship Pipeline Frey [Norse mythology], F:458 Frere, Sir Henry Bartle Edward, F:456 Pipeline (Major pipelines of the See also Freyja Fresco (art), F:456 with picture world), P:517 Vikings (Religion), V:389 See also list of Related Articles with Friendship [ship] Freyberg, Bernard (British military the Fresco article First Fleet, F:148 commander], F:458 Architecture (Early Christian architec-Friese-Greene, William (British inven-Freyja [Norse mythology], F:458 ture), A:523 tor], F:460 Byzantine art (Frescoes and mosaics), Frietchie, Barbara (literary figure), Frey, F:458 B:697; picture on B:699 F:460 Friar Bacon and Friar Bungay | play by Catacombs, C:255 with picture Frieze Greece, Ancient picture on, G:353 Architecture (table), A:515 with dia-Drama (Elizabethan playwrights), esus Christ pictures on, J:96, J:97 gram; (Minoan architecture) A:521 D:291 Painting, P:40; pictures on P:46, P:47 Column (The Roman orders), Ci:214 Greene, Robert, G:360 Fresh water Parthenon, P:204 Friar (religion), F:458 Hydrosphere, H:408 Sculpture (As part of architecture), Freshwater bass Capuchins, C:149 S:189 Christianity (The Middle Ages), C:485 Bass. B:141 Frieze rugs and carpets Dominicans, D:262 Freshwater diving duck Rugs and carpets, R:449 Duck (Kinds of ducks), D:339 with pic-Franciscans, F:422 Frigate Iship], F:460 with picture Friars Minor (religious group) Destroyer, D:135 Freshwater drum (fish) Franciscans, F:422 Navy (Ships and aircraft), N:59 Drum ifishl, D:324 Friar, F:458 Warship, W:44 Friars Preachers, Order of Freshwater eelgrass Frigatebird, F:460 with picture Eelgrass, E:96 Dominicans, D:262 Frigg [Norse mythology] Freshwater fish Frick, Wilhelm [Nazi politician] Balder, B:38 Hitler, Adolf (Dictator of Germany), Fish, F:157; (How fish adjust to change) Friday, F:459 F:175; (How fish reproduce) F:176; Frijoles ifood Fricker, Peter Racine British compictures on F:165, F:166 Mexico (Food and drink), M:405 Fresnel Lens (optics) poserl, F:458 Frilled lizard, F:461 with picture Lighthouse (How lighthouses work), Friction [physics], F:459 Lizard (Defences), L:340 with picture Aerodynamics (Drag), A:72 Frimi, Rudolf (Czech-born U.S. com-Fresnel, Augustin J. French physicist Brake, **B:520** poser], F:461 Lighthouse (History), L:267 Energy (The conservation of energy), Musical comedy (The first musicals), Optics (History), O:480 E:246 M:739 Physics (Developments in the study of Fire (Methods of starting fires), F:126 Fringe benefit light), P:476 Heat. H:116 Wages and hours (Wages), W:2 Fret Machine (Efficiency), M:12 Fringe of Leaves, A [book by White] Gultar, G:419 Motion (How friction affects motion), White, Patrick, W:232 Sitar, 5:457 M:647 Freud and Man's Soul book by Bettel-Fringe tree, F:461 with picture Friction drag [aerodynamics] Fringing reef Aerodynamics (Principles of aerody-Coral, Cl:348 with picture Bettelheim, Bruno, **B:264** namics), A:72 Freud, Anna [Austrian psychiatrist], Frink, Dame Elisabeth British sculp-Friction welding tor), F:462 with picture Welding (Deformation bonding), Frisbee, F:461 with picture Freud, Sigmund [Austrian psychiatrist], W:143 Frisch, Karl von [Austrian zoologist], F:457 with portrait Friday [day], F:459

Islam (The five pillars), 1:415

Barth, John, B:121

Mosque, M:633

Friday mosque [building]

Friday Book, The book by Barth

F:462

Frisch, Max [Swiss author], F:462

Frisch, Otto [Austrian physicist]

Fermi, Enrico, F:54

Meitner, Lise, M:327

Abnormal psychology (History), A:12

Reason), A:157

Autograph picture on, A:871

Age of Reason (Criticism of the Age of

Biography (Modern biography) B:302

Nuclear energy (The first artificially

annual distance and the beautiful
created fission reaction), N:329
Strassmann, Fritz, So:344
Frisch, Ragnar [Norwegian economist
F:462
Econometrics, E:59
Nobel Prizes (Economics), N:235
Tinbergen, Jan, T:259
Frislan (language)
Netherlands (Language), N:90
Fritillary (butterfly), F:462
Fritillary [plant], F:463 with picture
Fröbel, Friedrich Wilhelm August
[German educator], F:463
Kindergarten (History), K:252
Frobisher Bay (Northwest Territories)
Frobisher, Sir Martin, F:463
Northwest Passage, N:289
Frobisher, Sir Martin (English naviga-
tor], F:463
Exploration (table), E:421; (The search
for a northern passage) E:422;
map on E:420
Northwest Passage, N:289
Spanish Armada (The two fleets),
5o:190
Frog, F:464 with pictures
See also list of Related Articles
Amphibian, A:340 with pictures
Animal pictures on, A:386, A:398
Animal (Providing shelter), A:408
Ear picture on, E:13
Egg (Other kinds of eggs), E:97 with
picture
Heart diagram on, H:113
Larva picture on, L:67
Puerto Rico (Animals and plants),
P-148
Sound (Animal sounds), So:46 with
picture
Tadpole, T:5
Frogner Park
Norway (Arts), N:296; picture on N:295
Frogs [play by Aristophanes]
Aristophanes, A:567
Froissart, Jean French poetl, F:469
French literature (Early prose), F:445
From a Surgeon's Journal, 1915-1918
(book by Cushing)
Cushing, Harvey, Ci:505
From a View to a Death [book by Po- well]
Powell, Anthony, P:731
From Bauhaus to Our House book by
Wolfel
Wolfe, Tom, W:288
From immigrant to inventor (book by
Pupin]
D 1 141 1 141 1 D 000
Pupin, Michael Idvorsky, P:862
rom Morn to Midnight lplay by Kai-
rom Morn to Midnight lplay by Kai- serl
From Morn to Midnight play by Kai- ser Drama (Expressionism) Dr299
From Morn to Midnight play by Kaiser Drama (Expressionism), D:299 Kaiser, Georg, K:180
From Morn to Midnight play by Kaiser Drama (Expressionism), D:299 Kaiser, Georg, K:180 From the Back of the Bus book by
From Morn to Midnight play by Kaiser Drama (Expressionism), D:299 Kaiser, Georg, K:180 From the Back of the Bus book by Gregory
From Morn to Midnight play by Kaiser Drama (Expressionism), D:299 Kaiser, Georg, K:180 From the Back of the Bus book by Gregory Gregory, Dick, G:366
From Morn to Midnight play by Kaiser Drama (Expressionism), D:299 Kaiser, Georg, K:180 From the Back of the Bus book by Gregory Gregory Dick, G:366 From the House of the Dead lopera by
From Morn to Midnight play by Kaiser Drama (Expressionism), D:299 Kaiser, Georg, K:180 From the Back of the Bus book by Gregory Gregory Dick, G:366 From the House of the Dead opera by Janáček
From Morn to Midnight play by Kaiser Drama (Expressionism), D:299 Kaiser, Georg, K:180 From the Back of the Bus book by Gregory Gregory Dick, G:366 From the House of the Dead lopera by

From the New World [music by Dvořák Dvořák, Antonin, D:359 From the Terrace [book by O'Hara] O'Hara, John, 0:417 Fromm, Erich [German psychoanalyst], F:469 Frond Fern, F:55 Plant (Ferns), P:544 with picture Fronde [French history], F:469 Louis XIV, L:399 Air (The study of air), A:188 Cloud (Storms), C:113 Tornado (The story of a tornado), Weather, W:114 with diagrams; (table) W:111; (Scientific advances in the 1900's) W:122 Front crawl Swimming, So:484 with diagrams Front de Libération du Québec (FLQ) Canada, History of (The Quebec separatist movement), C:105; (The separatist threat) C:106 Front de Libération Nationale (FLN) Algeria (The Algerian Revolution), Front-end loader Construction equipment (Earthmoving machinery), Ci:310 Front for the Liberation of Angola (FNLA) Angola (History), A:373 Front for the Liberation of Occupied South Yemen (FLOSY) Yemen (Formation of Yemen (Aden)). Front Islamique du Salut (FIS) Algeria (Government), A:261 Front lighting Photography, P:446 with picture Front Page, The Iplay by Hecht and MacArthur] Hecht, Ben. H:127 Front-wheel drive Car (The drive system), C:157 Frontal bone (anatomy) Face, F:3 Head diagram on, H:93 Skull. S:474 Frontal fog (weather) Fog, F:284 Frontal lobe Brain (The cerebrum), B:511 Frontal sinus [anatomy] Sinus, S:455 with diagrams Frontenac, Comte de (Canadian political leaderl, F:469 with picture Canada, History of (The royal province), C:98 Jolliet, Louis (Discovery and exploration), J:138 Frost [weather], F:470 with pictures Frost, John [British political leader]. F:470 with portrait

Frost, Robert Lee (American poet),

F:471 with portrait

American literature (Realist poetry), A:317 Autograph picture on, A:871 Pound, Ezra Loomis, P:728 Frostbite (injury), F:471 First aid, F:146 Frozen food Food, Frozen, F:302 Fructose, F:471 Carbohydrate (Simple carbohydrates), C:187; (How the body uses carbohydrates) C:187 Corn syrup, Ci:357 Hydrolysis, H:407 Jerusalem artichoke, J:94 Sugar (Kinds of sugar), So:390 Wine (Fermentation), W:274 Fruit bat Fiying fox, F:281 Fruit, F:472 with pictures See also list of Related Articles Food (Sources of food), F:294 Lake (Climate), L:18 Nutrition (Basic food groups), N:365 with picture Plant (Seeds), P:555 Tree (Food products), T:373; (Seeds) T:378 with pictures Fruit fly, F:476 with picture Compound eye picture on, Ci:251 Genetic engineering (History), G:81 Heredity (The structure of chromosomes and genes), H:166 Insect picture on, 1:253 Mediterranean fruit fly, M:321 with picture Fruit rot iplant diseasel Tomato (Growing, harvesting, and processing), T:292 Fruit sugar Fructose, F:471 Fruiting body Fungi (Parts of a fungus), F:485 Mushroom, M:721; (Parts of a mushroom) M:721 Frustration-aggression hypothesis [psychology] Aggression, A:159 Frustration tolerance [psychology] Aggression, A:159 Baby (From 1 to 6 months), B:4 Child (Aggressive and antisocial behaviour), C:407 Fry Fish (How fish live), F:172 with plature Fry, Charles Burgess (British sports man], F:476 Cricket (Outstanding cricketers), Cl:431 Fry, Christopher (British dramatist), F:477 Fry, Elizabeth Gurney (British social reformerl, F:477 Fry, Joseph (British businessman), F477 Fry, Roger Elfot British artist Fry, Joseph, F:477 Fry, Sir Edward (British lawyer) Fry, Joseph, F:477 Frying

American literature (Nonfiction prose), Latin American literature (Recent de-Cooking, Ch:335 velopments), L:97 FSH Fuller, Roy English poetl, F:482 Fugard, Athol (South African play-See Follicle-stimulating hormone Fuller's earth, F:482 wrightl, F:480 Fu-chou Drama (Drama in other countries), Fuller's teasel Fuzhou, F:510 Teasel, T:81 with picture Fuchs, Sir Vivian Ernest (British geolo-D:301 Fullerton, Gordon [American astronaut] Fugitive slave laws (U.S. history), F:480 olst, F:477 with portrait Space exploration (The shuttle era be-Antarctica (International cooperation), Fugue, F:480 gins), So:158 Bach, Johann Sebastian, B:16 A:444 with map Fulling lindustrial process) Classical music, Ci:58; (The Renais-Exploration (table), E:427; (Polar explo-Broadcloth, B:583 sance period) Ci:59 ration) E:427 with map Fuller's earth, F:482 Counterpoint, Ci:392 Fuchsia, F:477 with picture Wool (Making fabric), W:312 Führer Fuegians [people] Fully submerged hydrofoil Hitler, Adoif (The New Order), H:228 Tierra del Fuego, T:243 Hydrofoll, H:402 with picture Fuji, Mount Fuel, F:477 Fulmar, F:482 See Mount Fuji See also list of Related Articles Petrel, P:327 Fujimori, Alberto (Peruvian political Air pollution (Fuel combustion), A:202 Fulton II [ship] Car (How a car works), C:153 Perry, Matthew Calbraith, P:293 Peru (Government), P:307; (Recent de-Coal (Coal as a fuel), Ci:121 Fulton the First [warship] velopments) P:317 Fire (How fire is produced), F:126 Fulton, Robert, F:483 Fujiwaras Light, L:256 Fulton, Robert [American inventor], Japan (History), J:55 Methanol, M:383 F:482 World, History of the (The rise of Japa-Natural gas liquids, N:46 Industrial Revolution (Waterways), nese civilization), W:345 Natural resources (Conservation and development), N:47 **Fujiyama** Navy (Engineering advances), N:60 See Mount Fuji Petroleum (Petroleum as a fuel), P:337 Ship (The Clermont), S:371 Fuku (poetry by Yevtushenko) Plant (Raw materials), P:542 Steamboat, So:309 Yevtushenko, Yevgeny, Y:452 Synthetic fuel, So:518 Submarine (Early submarines), So:371 Fukuoka (Japan), F:481 Technology (The depletion of natural Torpedo (History), T:303 Ful [food] resources), T:86 United States, History of the (Expan-Egypt (Food and drink), E:109 Fuel-air bomb sion and the economy), U:247 Sudan (Food and drink), So:382 Bomb (Incendiary bomb), **B:435** Warship (Warships of the 1800's), Fulant (people), F:481 with picture Fuel assembly W:46 Cameroon (People), C:59 Nuclear energy (Fuel preparation), Fumarole (geology), F:483 Gambia (People), G:21 N:324; (Wastes and waste dis-Montserrat (Land), M:581 Guinea (People), G:413; (History) G:415 posal) W:326 **Fumigant** Fuel cell, F:479 with picture Hausa, H:79 Fumigation, F:483 Electrochemistry, E:174 Mali (People), M:114 Insecticide, I:263 Mauritania (People), M:268 Energy supply, E:249 Fumigation, F:483 Niger (People), N:203 Space exploration (Eating and drink-Food preservation (Other methods), ing), So:137 Senegal (People), S:251 F:308 fuel exhaust and smog Sierra Leone (History), S:413 Funafuti (Tuvalul, F:483 Fulbright Act 1946 Environmental pollution (Kinds of envi-Tuvalu, T:478 with picture Fulbright, J. William, F:481 ronmental poliution), E:303 with Funan [ancient kingdom] Fulbright Scholarship, F:481 diagram Cambodia (History), C:46 Fuel Injection, F:479 with diagram Fulbright, J. William (American politi-Vietnam (Early years), V:380 Car (The fuel system), C:154 cal leader), F:481 **Funchal** Free-piston engine diagram on, F:430 **Fulcrum** Madeira Islands picture on, M:27 Petrol engine (Air and fuel), P:332; Lever, L:196 Function [mathematics] Machine (Six simple machines), M:12 (Fuel system) P:334 Fuel oil Algebra, A:257 with diagrams Calculus (Differential calculus), C:25 Fuel (Liquid fuels), F:478 **Fulgurite Fuel products Function** word Glass (History of glass), G:195 Adjective (Comparison of adjectives), Forest products, F:355 Fulham Fuel rod AddR Hammersmith and Fulham, H:31

Nuclear energy (Fuel preparation),

Car (The petrol shortage), C:174

of nuclear energy), N:319

Petroleum (The energy shortage),

transportation), T:360

Fuentes, Carlos [Mexican author],

Fuel system lenginel

F:480

Petrol engine, P:334

Nuclear energy (The full development

Transportation (Problems of modern

N:324

Fuel shortage

Full house

Full moon

Poker, P:622

Full Life, A (book by Horrocks)

Horrocks, Sir Brian, H:284

Moon (The phases of the moon),

M:591 with diagrams **Functionalism** Full-rigged ship Anthropology (Development of field Ship. S:368 research), A:453 Full stop Sociology (Development of social re-Punctuation, P:856 search), So:13 Fuller, Buckminster [American de-**Fundamental** signer), F:481 with portrait Sound (Sound quality), So:49 Fuller, Margaret [American author]

English language, **E:281**

Functional hypoglycaemia

Reading (World literacy), R:151

Hypoglycaemia, H:417

Grammar, G:288

Functional Illiteracy

Illiteracy, 1:32

Fundamental boson

Fundamental force

Boson, **B:475**

Force, F:338

Grand unified theories, G:294
Fundamental frequency [sound]
Harmonics, H:62
Pitch, P:524
Sound (Sound quality), So:49
Fundamental theorum of arithmetic
Number theory, N:343
Fundamental theorum of calculus
Calculus, C:27; (History) C:27
Fundamentalism [religion], F:483
Religion (Religion today), R:205
Scopes trial, S:154
Fundamentals of Learning (book by
Thorndikel
Thorndike, Edward Lee, T:226
Fundos
Chile (Rural life), C:418
Funeral customs, F:484
See also list of Related Articles
Bell (History), B:227
Flag (Flags at funerals), F:217
Hinduism picture on, H:214
Maya (Religion), M:277
Painting (Egyptian painting), P:46
Papua New Guinea (Burial Customs),
P:147
Suttee, So:451
Fungal disease, F:485 See also list of Related Articles
Banana (How bananas grow), B:71
Plant (Diseases), P:567 with pictures Fungi, F:485 with picture
Animal, A:376
Botany (Pathology), B:479
Classification, Scientific (Groups In
classification), Cl:67
Disease (Other infectious diseases),
Disease (Other Infectious diseases),
Forestry (Diseases and pests), F:359
Fungal disease, F:485
Fungicide, F:487
Hay fever, H:89
Kingdom, K:256
Lichen, L:240
Mycotoxin, M:748
Plant (Roots), P:553; (Photosynthesis)
P:562; (Plant enemies) P:567 with
pictures
Reproduction, R:224
Rust, R:504
Spore (Algal and fungal spores),
So:238 with pictures
Yeast, Y:442 with pictures
Fungicide, F:487
See also list of Related Articles
Fungal disease, F:485
Pesticide, P:319
Fungus
See Fungi
Fungus grower
Ant, A:433
Funi Sultanate (Muslim empire), F:487
Sudan (Early days), So:384
unnel
Animal (Fins, tails, and flippers), A:398

Ship, \$:385 with picture Funnel-eared bat Bat (Kinds of bats), B:148 Funnel web spider, F:487 with picture Spider, So:224 Funny bone [anatomy], F:487 Funny Thing Happened on the Way to the Forum, A (work by Sondheiml Sondheim, Stephen, So:40 Fur, F:488 with pictures See also list of Related Articles Beaver, B:177 Camel (People and camels), C:51; (The body of a camel) C:52 Clothing (Clothing materials), Cl:106; (Protecting the public) Ci:107 Hair, H:10 Fur [people] Sudan (Population and ethnic groups), So:381 Fur ranching Fur (How fur is obtained), F:489 Fur seal Animal picture on, A:408 Mammal picture on, M:125 Pribilof Islands, P:774 Seal, S:224 with picture Fur trade Alaska (History), A:227 Astor, John Jacob, A:679 Canada, C:90 Canada, History of (Start of the fur trade), C:97 with picture Hudson's Bay Company, H:340 New France (Colonial life), N:113 North West Company, N:263 Fur trapping Fur (How fur is obtained), F:489 Furfural Ichemicall, F:491 Grain, G:285 Petroleum (Solvent extraction), P:349 Rice (Other uses), R:262 Furfuraldehyde Aldehyde, A:240 Furfural, F:491 Furfuryl alcohol Furfural, F:491 Furies (Roman mythology), F:492 with pictures See also Aeschylus Orestes, 0:493 Furious (ship) Aircraft carrier (History), A:206 Furlong lunit of measurel, F:492 **Furnace** Electric furnace, E:145 Heating (Warm-air heating), H:127 with diagram Insulation (In industry), 1:269 Iron and steel, 1:386 with picture Iron and steel (How iron is made), 1:389 with diagrams Iron and steel (How steel is made),

1:391 with diagram

work), So:307

F:492

Wilsons Promontory, W:263 Furness Abbey [England] Cumbria (Places to visit), Cl:496 **Furnishing** Interior decoration (Scale), 1:283 Furniture, F:493 with pictures See also list of Related Articles Antique, A:463 with pictures Art deco, A:603 with picture on A:604 Colonial life in America (Furnishings), Ci:181 with picture Interior decoration (Form), 1:283 Lacquer, L:9 Paint (Industrial paints), P:24 Sweden (Industrial design), So:468 White House (Public rooms), W:233 Furphy, Joseph (Australian writer), Australia, Literature of (Novels), A:832 Australia, Literature of (The Middle Period). A:830 **Furrow irrigation** Irrigation (Furrow irrigation), 1:407 with picture Further Observations on the Variolae Vaccinae or Cowpox (book by Jenner] Jenner, Edward, J:83 Furtwangler, Wilhelm (German conductorl, F:508 Furze, F:508 Fusarium wilt Pea (Diseases and pests), P:224 Tomato (Growing, harvesting, and processing), T:292 Wilt, W:263 Fuse (electricity), F:508 Electric circuit, E:141 Electricity (table), E:168; (Controlling electricity) E:169 Fuse (explosion device), F:509 with pic Ammunition (How shells explode), A:336 Bomb, B:434 with pictures Fireworks (How fireworks work), F:140 Mine warfare (Land mines), M:481 with diagram Fused silica glass Glass (Recipes for making glass), G191 Fusee Fireworks, F:140 Fuselage Aeropiane (The parts of an aeropiane) A:89 Glider (The body), G:207 Fusell, Henry [Swiss painter], F:509 **Fusible metal** Alloy (Characteristics of alloys), A:277 Bismuth, B:371 Fusion [physics], F:509 Astronomy (Stars), A:691 Bomb (Hydrogen bombs), 8:436 with Energy supply (Nuclear energy), E24 diagram Steam engine (How steam engines (Challenges) E:252 with picture Furneaux, Tobias British naval officerl. Fuel, F:477

Glass (Laser glass), G:191

Furneaux's Land [Australia]

Laser (Heating), L:71 Nova, N:310 Nuclear energy, N:322 with diagram Nuclear physics, N:332 Nuclear weapon (Thermonuclear weapons), N:335 with picture Physics (Nuclear physics), P:473 Plasma, P:574 Powder metallurgy, P:730 Sakharov, Andrei Dmitriyevich, S:47 Star (Why stars shine), So:281; (How stars produce energy) So:286 Sun (Solar energy theories), So:416 Transmutation of elements, T:344 Fusion jazz [music] Jazz, J:78 **Fusion reactor** Alfvén, Hannes Olof Gauosta, A:250 Magnetohydrodynamics, M:59 Fusion welding Welding, W:142 Fusion zone Welding (Fusion welding), W:142 Futabatei Shimei [Japanese author] Japanese literature (The modern period), J:64 Japan (City life), J:40 Future Indefinite (book by Coward) Coward, Sir Noel, Cl:404 **Future time** Tense, T:151 **Futures market** leconomics) Commodity exchange, Cl:222 Cotton (Selling), Cl:387 Wheat (Buying and selling wheat), W:222 Futurism larti, F:509 Beccioni, Umberto, B:417 Italian literature (The 1900's), I:446 Italy (Painting and sculpture), 1:458 Painting, P:80; picture on P:82 Russian literature (Post-symbolism), R:500 Sculpture (Modern international sculpture), S:215 Fuzhou (China), F:510 Treaty port, T:370 Fuzz police Police, P:639 Fylde llocal government district, England), F:510 Fynbos iplanti, F:510 Western Cape (Land and climate), W:184

Ga (people) Accra, A:21 Ga [symbol] Gallium, G:17 Gabardine (fabric), G:2 Gabbro Rock (Intrusive rocks), R:307 with picture Gaberones Gaborone, G:4 Gable roof Roof, R:386 Gable, Clark [American actor], G:2 with portrait Autograph picture on, A:871 Film industry (Best performance by an actor), F:96 Gabo, Naum [Russian sculptor], G:2 Gabon (Africal, G:2 with map Flag picture on, F:200 Libreville, L:237 Sculpture (Personal sculpture), S:203 with picture Gaboon viper Snake picture on, \$:506; (Vipers) 5:516 Viper, V:400 Gabor, Dennis [Hungarian-born engineerl, G:4 Holography, H:249 Nobel Prizes (Physics), N:227 Optics (History), 0:480 Gaborone (Botswana), G:4 Botswana picture on, B:482 Gabriel (Biblical figure) Annunciation, A:425 Jesus Christ (The Nativity), J:96 Kaaba, K:178 Ouran, Q:32 Gadhafi, Muammar Muhammad al-Gadolin, Johan (Finnish chemist) Gadolinium, G:4 Gadolinite imineral) Gadolinium, G:4 Rhenium, R:250 Ytterbium, Y:468 Gadolinium (element), G:4 **Gadsden Purchase** destiny), U:247 Gadwall, G:4 with picture Gaea [hypothesis] Gaia, G:7 Gaea(Greek mythology) Cronus, Ci:452 Hesperides, H:187 Titans, T:265 Uranus, U:276 Gaelic Athletic Association (GAA),

Japan picture on, J:45 Music (Japanese music), M:735 Gagarin, Yuri Alekseyevich (Russian astronauti, G:7 with portrait Astronaut picture on, A:683 Exploration (Space exploration), E:428; (table) E:429 Space exploration, So:128; (Vostok and Mercury: The first human beings in space) So:145 with picture Union of Soviet Socialist Republics (Khrushchev's policies), U:40 Gagauz ipeopiel Moldova (Ethnic groups and lan-See Qadhafi, Muammar Muhammad guage), M:528; (Threats to Moldovan unity) M:530 Gage, Thomas British military commander], G:7 American Revolution (The Intolerable Acts), A:324; (Lexington and Concord) A:325 Concord, Battle of, Cl:273 Revere, Paul (Paul Revere's ride), R:246 Gagnan, Émile United States, History of the (Manifest Diving, Underwater (History), D:209 Skin diving (History), \$:473 Gahn, Johan Gottlieb (Swedish chemist Manganese, M:152 Gaia [hypothesis], G:7 Galkwad, Laxman [Indian writer] India, Literature of (Dalit literature), Mythology (The creation myth), M:756 1:129 **Gaillard Cut** Panama Canal, P:122 with map Gaillard, David DuBose [American en-G:4 gineer) Gaelic football Panama Canal (The Gaillard Cut), P:122 Gaelic games, G:5 with pictures Gaillardia, G:7 with picture Ireland (Recreation), I:355 Flower picture on, F:255 Northern Ireland (Recreation), N:272 Gainsborough, Thomas British Gaelic games, G:5 with pictures painterl, G:8 with picture Gaelic language, G:6 Babergh, B:3 Alphabet picture on, A:284

Glietter], G:1 with pictures G[symbol, physics], G:2 G clef [music] Music (Pitch), M:732 with picture

Treble, T:370 GMen [film]

Cagney, James, C:15

Ireland (Language), 1:355 Irish literature (Modern works in

Gaelic). 1:382 Scotland (Language), S:160

United Kingdom (Language), U:52 Gaelic League [Irish history] Hyde, Douglas, H:394

Ireland, History of, I:376 Irish literature (Modern works in

Gaelic), 1:382 Gaelic Ilterature, G:6

Irish literature (Modern works in Gaelic), 1:382

Gaels [people], G:7 England (The first invaders), E:273

Irish language, 1:380 Gaeltarra Éireann

Gaeltacht

Country crafts (Historical development), Cl:394

Gaff Sailing (Spars), S:22

Gaffer Film industry (Preparing to shoot), F:86 Glass (table), G:200

Gagaku [music]

Galatia [Asia Minor], G:10

ment], G:10

Galatians, Epistle to the New Testa-

Geology (The Renaissance), 6:92 Rococo, R:328 Galatians [people] Siddons, Sarah Kemble picture on, Galatia, G:10 Gravitation, G:308 S:410 Gaul, G:63 Invention (The Age of Reason), Isaac Italian literature (The baroque period Gairy, Sir Eric | prime minister of Galaxy [astronomy], G:10 with picture Grendal, G:8 See also list of Related Articles and the Age of Reason), 1:445 Gait Astronomy, A:691 Light (The speed of light), L:263 Mathematics (Mathematics and the Horse, H:296 Computer (In engineering and the Gaius (Roman teacherl, G:8 sciences), Ci:253 scientific revolution), M:260 Meteorology (History), M:382 Gaius Caesar Augustus Germanicus Earth (How the earth moves), E:18 Moon (The moon's surface), M:583; [Roman emperor] Leavitt, Henrietta Swan, L:144 Caligula, C:40 Maffei galaxies, M:39 (table) M:595 · · · Gaius Julius Caesar Octavianus Magellanic Clouds, M:44 Pendulum, P:255 Augustus, A:745 Milky Way, M:471 Physics (The Renaissance), P:474 Gaius Marius [Roman general] Solar system, So:26 Saturn (Rings), S:101 Sulla, Lucius Cornelius, So:398 Galba, Martí Joan de [Spanish author] Science (Conducting experiments), Gajah Mada [Javanese statesman], G:8 Spanish literature (The 1400's), So:193 S:142; (Expressing findings math-Galbraith, John Kenneth [American Galabiyah [clothing] ematically) S:142 (The scientific Cairo picture on, C:17 economistl. G:11 revolution) S:146 Egypt (Clothing), E:109 Galdhøpiggen [mountain, Norway] Sound (The wave theory), So:53 Telescope, T:112; (Refracting tele-Galactic cluster (astronomy) Norway (The Mountainous Plateau). Milky Way (Shape of the Galaxy), scopes) T:113 MM71 Galdós, Benito Pérez (Spanish author) Thermometer (History), T:216 Galactic cosmic rays Spanish literature (The 1800's), So:195 World, History of the picture on, Cosmic rays, Ci:370 Gale (weather) W:352 Galactic halo Wind (table), W:269 Galileo (space probe) 😁 Halo, H:25 Galego Space exploration (Probes to Jupiter Milky Way (Shape of the Galaxy), Portuguese language, P:708 and beyond), So:145 M:471 Galen (Greek doctor), G:11 Gall [botany], G:14 with picture Galactosaemia (disorder) Anatomy, A:350 See also list of Related Articles with Cell (Metabolic diseases), C:302 Biology (History of biology), B:305 the Gall article Enzyme, E:310 Colour (Early theories of colour vision), Plant (Diseases), P:567 Galactose Gali bladder (anatomy), G:15 with dia-Carbohydrate (Kinds of carbohydrate), Heart (Early beliefs about the heart), C:187; (How the body uses car-H:111 See also list of Related Articles with bohydrates) C:187 Hippocrates, H:218 the Gall bladder article Galago, G:9 with picture Medicine (Greece and Rome), M:314 Bile, B:292 with diagram Galah, G:9 Occupational therapy (History), O:385 Human body (The small intestine and Galahad, Sir (legendary figure), G:9 Science (Ancient Rome), S:144 large intestine), H:355 Holy Grail (The search for the Grail), Vesalius, Andreas, V:350 Laparoscopy, L:61 H:251 Zoology (History), Z:506 Gall mite [animal] Lancelot, Sir, L:42 Galena (mineral), G:11 Mite, M:519 Round Table (Origin), R:411 Lead (How lead is obtained), L:125 Gall, Franz Joseph **Galant music** Mineral picture on, M:484 Phrenology, P:468 Classical music (The classical period), Galicia (region, Europe), G:11 Gallé, Emile [French artist] Ci:60 Poland (Economy), P:630 with picture Art nouveau, A:604 Galapagos Islands, G:9 with maps P:630; picture on P:625 Gallé glass Ecuador, E:67, E:70 with map Ukraine (Russian rule), U:12 Glass, G:198 with picture Galle, Johann G. (German astronomer) Evolution (Natural selection), E:408; Galicia-Volhynia (Geographic distribution of spe-Ukraine (Lithuanian and Polish rule), Astronomy (The discovery of new cies) E:410; (Darwin's theory) E:412 U:12 planets), A:699 Island (How life develops on islands), Galician Neptune, N:79 1:423, 1:423 Portuguese language, P:708 Gallegos, Rómulo Penguin, P:257 Latin-American literature (The early Spain (Language), So:172 Science picture on, S:145 Spanish language (Castilian Spanish), 1900's), L:96 Venezuela (The arts), V:330; (The road Tortoise, T:307 with picture So:192 Galapagos penguin Galfiean satellite to democracy) V:334 Penguin, P:257 Jupiter (Satellites and ring), J:172 Galleon, G:15 with picture Navy (The beginning of modern na-Galapagos Rift [oceanography] Galifee, G:12 with picture Pacific Ocean (Exploration), P:15 Israel (The Judeo-Galilean Highlands). vies), N:60 Galapagos tortolse 1:433 Ship, \$:368 with picture Warship picture on, W:44; (The age of Tortoise, T:306 with picture Jesus Christ (Ministry), J:98 with map Galashiels (town, Scotland) Galilee, Sea of, G:12 sailing ships) W:46 Borders Region, B:466 Galileo [Italian astronomer], G:13 with Galley [printing] Linetype (How the linetype works), Galatea, La [book by Cervantes] **Dictures** Cervantes, Miguel de (His literary ca-Astronomy (Galileo and Newton), L:296 reerl, C:330 A:698 Printing (Typesetting), P:781 Galley (warship), G:16 with pictures

Copernicus, Nicolaus, Ci:339

gram

Falling bodies, Laws of, F:15 with dia-

Egypt, Ancient (Government), E:127

Navy (Ancient navies), N:60

301

Warship picture on, W:44 (History) W-AG Gailghaldel [Norse-Celtic invaders] Dumirles and Galloway Region (History), D:347 Gallic wars Gaul, G:63 Gallicanism Pope (The 1700's and 1800's), P:678 Roman Catholic Church (The revolt of the Catholic Kings), R:342 Galilenus [Roman emperor], G:16 Gaillnule, G:16 Rail, R:96 Gallipoli (work by Williamson) Williamson, David, W:258 Gallipoli Peninsula Anzac, A:468 with picture and map Atatürk, Kemal, A:703 Australia, History of, A:817 New Zealand, History of (World War 1), N:173 World War I (The Dardanelles), W:369 Gallium [element], G:17 Gallon junit of measurel, G:17 with pichure Gallop (horseriding) Horse (How to ride), H:296 with pictures Galloway Dumfries and Galloway Region, D:344 Gallowglass (Scottish foot soldier), G:17 Ireland, History of (The Irish recovery), 1:369 Gallows on the Sand (book by West) West, Morris, W:155 Gallstone Gall bladder, G:15 Laser (Heating), L:71 Gallup Poli Gallup, George Horace, G:17 Public opinion poll (History), P:841 Gallup, George Horace (American statisticiani, G:17 Galmarra Jacky Jacky, J:8 Galsworthy, John [British author], G:17 with portrait Drama (English drama), D:299 Nobel Prizes (Literature), N:232 Galt, John [Scottish author] Scottish literature (1800-1900), S:176 Galton, Sir Francis (British scientist), G:17 Eugenics, E:352 Fingerprinting (History), F:112 Heredity (Early ideas about heredity), Police laboratory (History), P:645 Galvani, Luigi litalian doctori, G:18 Electricity (Experiments with electric charges and currents), E:171 Galvanism [physics] Galvani, Luigi, G:18 **Galvanized** metal

Zinc, Z:498

Calvanizing (industrial process), G:18

Galvanometer, G:18 with picture

Ampère, André Marie, A:339

Einthoven, Willem, E:132 Electric meter, E:152 Film industry (The sound track), F:92 with diagram Kelvin, Lord, K;313 Wheatstone bridge, W:226 Galveston [U.S.A.] Tidal wave, T:240 Galway [Ireland], G:19 with pictures and map Arms picture on, A:587 Ireland (Surface features), 1:357 Galway Bay, G:810 Galway Land, G:20 Ireland (Surface features), 1:357 Galway (town, Ireland), G:21 Galway, James [Irish musician], G:21 with portrait Gama, Vasco Da See Da Gama, Vasco Gamaitel (Biblical figure), G:21 Gambang [musical instrument] Indonesia (Arts), 1:185 Orchestra picture on, 0:489 Gambel's quail Bird picture on, B:329 Quail, Q:4 Gambia, G:21 with picture and map Flag picture on, F:200 Gambia River [Africa] Gambia, G:21; (Land) G:22 Senegal (Land and climate), \$:251 with Gambier, The Ifilm by Langi Lang, Fritz, L:47 Gambling, G:23 See also list of Related Articles Atlantic City, A:717 Las Vegas, L:75 Monte Carlo, M:574 Nevada, N:105 Roulette, R:411 **Gambrel** roof Roof, R:385 with picture Game lanimals], G:23 See also list of Related Articles Game Irecreationl, G:23 with pictures See also list of Related Articles Arawak Indians, A:496 Colonial life in America (Recreation), Cl:182 with picture Computer picture on, Ci:256 Game theory, G:25 Hobby (Games and sports), H:236 Indian, American (Recreation), L139 with picture Game, Sir Philip [Australian statesman] New South Wales (History), N:133 Game fish Fish (Food and game fish), F:153; picture on F:160 Game fishing

Fishing, F:185

Game laws, G:25

Cl:297

Hunting, H:385

wildlife conservation), W:251

Game Management [book by Leopold] Leopold, Aldo, L:180 Game of chance Card game, C:191 Dice, D:159 Roulette, R:411 Game theory, G:25 Von Newman, John,, V:426 Gamelan [orchestra], G:25 with picture Indonesia (Arts), I:185 Music (Indonesian music), M:735 with Gamelan [ballet by Joffrey] Joffrey, Robert, J:123 Gamete Alternation of generations, A:288 Animal (Sexual reproduction), A:404 Fern (Life cycle of a fern), F:55 Fungi (How a fungus lives), F:485 Heredity (Sex cells and reproduction), Moss (How mosses live), M:637 Plant (Sexual reproduction), P:556 Reproduction, R:223 Spore (Plant spores), So:238 Gametophyte Alternation of generations, A:288 Bryophyte, B:604 Fern (Life cycle of a fern), F:55 with picture Hornwort, H:283 Liverwort, L:336 Moss (How mosses live), M:637 Plant (Sexual reproduction), P:556 Seed (How seeds develop), S:236 Spore (Plant spores), So:238 **Gamines** Colombia (Way of life), Cl:171 Gaming Act [1968] Bingo, **B:296** Gamio, Manuel (Mexican anthropologistl, G:26 Gamma globulin [physiology], G:26 Blood (Protecting against disease), Hepatitis (Viral hepatitis), H:157 Immune system (Passive Immunity), Kawasaki disease, K:203 Plasma (Functions of plasma), P:575 Serum, S:272 Gamma radiation Radioactivity, R:88 Gamma ray recorder Uranium (Locating and mining uranium), U:274 Gamma ray telescope Telescope, T:116 Gamma rays, G:26 See also list of Related Articles Atom (Radioactivity), A:726 Electromagnetic waves (The electromagnetic spectrum), E:176 Irradiation, I:405 Light (Electromagnetic waves), L:259 Conservation (Wildlife conservation), Magnetic storm, M:53 Nuclear energy (Radioactive decay), N:323 Wildlife conservation (Methods of Nuclear physics, N:332

picture

River pictures on, R:289

Nuclear reactor (The pressure vessel), Varanasi, V:314 Cress, Ci:422 Garden God, The [book by Powell] West Bengal (Land features), W:159; Nuclear weapon (Initial nuclear radia-(Rivers) W:160 Powell, Anthony, P:731 tion). N:337 Ganglion Garden Island [Australia], G:33 Positron emission tomography, P:709 Brain (In invertebrates), B:518 Garden of Allah, The film! Radioactivity, R:87 with diagram Insect (Nervous system), I:251 Dietrich, Marlene, D:170 Gamow, George [Russian-born physi-Garden of Earthly Delights, Albook Nervous system (The cell body), N:82 cist]. G:26 Ganglioside by Oates) Gamsakhurdia, Zvlad Tay-Sachs disease, T:72 Oates, Joyce Carol, 0:376 Georgia (History), G:103 Gangrene, G:30 Garden of Earthly Delights, The Ganda [people], G:27 Arteriosclerosis (Effects), A:605 [painting by Bosch] Uganda (People), U:2 Tourniquet, T:313 Bosch, Hieronymus, B:472 **Gander** Garden of Eden, The lwork by Heming-Gangster Funeral [painting by Levine] Goose, G:254 Levine, Jack, L:198 way] Gandhi, Indira [Indian political leader], Gangue Hemingway, Ernest (Later years), H:148 G:27 with portrait Metallurgy (Mineral dressing), M:375 Garden of Eden Gandhi, Rajiv, G:29 Mining (table), M:494 See Eden India, History of (Relations with Paki-Ore, 0:492 **Garden of England** stan), I:118; (The Gandhi premier-Gannet [bird], G:31 with picture Kent. K:218 ship) I:119 with picture Ganoid scale Garden of Fand, The Imusic by Bax Gandhi, Mahatma (Indian political Fish (Kinds of fish scales), F:167 with Bax, Arnold, B:161 leader] picture Garden of Gethsemane [New Testa-See Gandhi, Mohandas Karamchand Ganwa [people] menti Gandhi, Mohandas (Indian political Burundi (History), B:666 See Gethsemane leader) Ganymede [Greek mythology], G:31 Garden, Mary [American soprano], G33 India, Literature of (Indian romanti-Ganymede [sate!|ite] Gardener, The clsm), 1:128 Jupiter (Satellites and ring), J:172 with Dubuffet, Jean, D:336 Gandhi, Mohandas Karamchand [Indiagrams Gardenia (planti, G:33 with picture dian political leaderl, G:27 with por-Gao [African history] Gardening, G:34 with pictures Africa (Kingdoms in western Africa), See also list of Related Articles Asia (The end of colonialism), A:659 A:150 Rose (How to grow roses), R:398 with picture Mali (History), M:116 Safety (In the garden), S:11 Dandi march, D:30 Niger (History), N:205 Gardens of Toledo, The [work by Tirso Fast, F:32 Gap [geography], G:31 de Molinal Hinduism (Social divisions), H:210 Gar [fish], G:32 with picture Tirso de Molina, T:263 India, History of (Gandhi and the satya-Gar pike Gardiner, Frank [Australian bugraha campaign), I:116; (World Pike, P:498 shranger . G:43 War II) k117 with picture; (Inde-Gardiner, Lord (British statesman), Gali Garand rifle, G:32 pendence and partition) 1:118 Garand, John C. [American engineer] Gardner, Erie Stanley [American auilnnah, Muhammad Ali (Political ca-Garand rifle, G:32 thorl, G:43 with portrait reer), 1:119 Garbo, Greta (Swedish film actress), Garefowl Pacifism, P:17 G:32 with portrait Auk, A:746 Gandhi, Rajiv Iprime minister of Indial, Steichen, Edward picture on, So:311 Garfield, James Abram [U.S. presi-G:29 with portrait García, Carios (Filipino political leader) dentl. G:44 Gandhi, Indira, G:27 Philippines, History of the (President Arthur, Chester Alan, A:608 India, History of (Recent develop-Bell, Alexander Graham (His later life) Carlos García), P:413 ments), 1:119 García Lorca, Federico (Spanish poet), Gandon, James (British architect), G:30 G:32 with portrait Garfish Ganesha Spanish literature (Drama), So:198 Gar, G:32 Hinduism (Divinities), H:209; picture García Márquez, Gabriel José IColom-Garfunkel, Art on H:211 bian novelisti, G:32 with portrait Simon, Paul, S:430 Maharashtra picture on, M:64 Gargantua and Pantagruel (book by Colombia (The arts), Ci:171 Gang of Four [Chinese political leaders] Latin American literature (Recent de-Rabelaisl, G:44 Jiang Qing, J:117 French literature (The Renaissance), velopments), L:97 **Ganges Delta** Nobel Prizes (Literature), L:233 PA46 Bangladesh (Rivers and streams), B:86 Garcia-Sarmiento, Felix Ruben Humanism (The arts), H:363 **Ganges dolphin** See Dario, Ruben Rabelais, François, R:39 River dolphin, R:292 García Y Íñiguez, Galixto ICuban law-Satire, S:99 Ganges River, G:30 with picture and yerl, G:33 **Gargas Cave** Prehistoric people picture on, P.757 map Garda Síochána Asia picture on, A:634 Police (freland), P:641 Gargle, G:44 Gargoyle [architecture], G:44 with pic Bangladesh (Rivers and streams), B:86 Garden Bath (Religious bathing), B:150 See Gardening Sculpture (As part of architecture), Bihar (Land features), B:289; (Rivers) Garden cities, G:33 **Garden City** [district] S:189 Garibaldi, Giuseppe [Italian military January (Special days), J:30 Cairo (Description), C:16 Religion (Religious rituals), R:199 with **Garden City of Queensland**

Toowoomba, T:297

Garden cress

herol. G:44

Italy (Italy unified), I:469 Sicilies, Kingdom of the Two, S:408 Garifuna Honduras (People), H:259 Garland, Hamlin [American author], Garland, Judy (American film actress), G:45 with portrait Garlic iplantl, G:45 with picture **Garment industry** Clothing (The 1800's), Ci:104; (The clothing industry) Ci:106 Textile, T:169 Garnerin André (French balloonist) Balloon (The growth of ballooning), Carnet (mineral), G:45 Gem picture on, G:73 Ruby, R:441 Yttrium, Y:469 Garnet, Henry Highland Applition movement (In the United States), A:13 Carnish Cooking (Methods of cooking), Ci:334 Garnishment (law), G:45 Attachment, A:732 Garrett, Pat |American legal officer| Billy the Kid. B:295 Garrick Galeties, The [musical com-Hart, Lorenz, H:69 Rodgers, Richard, R:330 Garrick Year, The work by Drabble Drabble, Margaret, D:278 Garrick, David (English actor), G:45 Drama (England), D:294 with picture Drury Lane, D:325 Shakespeare, William (The Age of Garrick), S:326 Garrison, William Lloyd, Abolition movement (In the United States), A:13 Garrote [execution], G:46 Garter snake, G:46 with picture Garter, Order of the, G:46 with picture Decorations, medals, and orders (Order of precedence), D:73 George, Saint, G:101 knighthood, Orders of (Honorary orders), K:299 Garuda, G:47 with picture Garvey, Marcus [American social reformerl, G:47 with portrait West Indies (Religion), W:166 Garvin, James Louis (British journalist), G:47 Gas balloon Balloon, B:60; (Operating a gas balloon) B:62 Gas |fuel|, G:48 with pictures See also list of Related Articles with the Gas [fuel] article Dalton, John, D:11 Fire, F:127 Fuel (Gas fuels), F:478 ion (Producing ions), 1:326 Space exploration (Overcoming grav-

ity), So:133

Gas [physics], G:57 with pictures

See also list of Related Articles

Air (Gases of the air), A:183 Chemistry (The phlogiston theory), C:369 Cohesion, Cl:155 Density, D:118 Fluid, F:272 Formaldehyde, F:362 Matter, M:264 Space exploration (Space between the stars), So:130 Gas chamber (execution), G:59 Holocaust, H:249 Gas chromatograph Mass spectroscopy, M:245 Police laboratory (Analysing the evidence), P:644 Gas chromatography Chromatography, C:497 with picture Gas cooker Cooker, Ci:332 Gas exchange Lung (Gas exchange in the lungs), Gas gangrene (disorder) Gangrene, G:30 Gas heating Heating, H:128 Gas I (play by Kaiser) Kaiser, Georg, K:180 Gas II [play by Kaiser] Kaiser, Georg, K:180 Gas industry Gas (The worldwide gas industry), G:57 Gas infrared heater Gas (Gas in industry), G:49 Gas lamp Invention picture on, 1:312 Lamp (Gas lamps), L:36 with picture Gas laser Laser, L:73 Noble gas, N:237 Gas laws Gas, G:58 Gas mask, G:59 with picture Morgan, Garrett Augustus, M:606 Gas meter, G:59 with picture Gas oil, G:59 Gas refrigerator Refrigeration, R:185 with picture Gas storage Gas (Storing gas), G:54 Gas system Machine gun (Operation), M:13 Gas thermometer Kelvin, Lord, K:214 Gas total energy system Gas (Gas in industry), G:49 Gas tungsten arc welding Welding (Arc welding), W:143 Gas turbine Car. C:175 Electric power (Other sources of electric power), E:159 Ship (The chief parts of a ship), S:383 Turbine, T:450 with diagram Gas turbine locomotive

Locomotive (Other kinds of locomo-

tives), L:355

Gas well Nebula, N:65 **Gaseous** waste Gasification Gasohol [fuel] Gasoline See Petrol Magi, M:44 Gastrectomy **Gastric** juice N:362 Gastric ulcer Gastroplasty Gastropod

Gas welding Welding, W:143 Gas (Producing gas), G:51; (Transmitting and distributing gas) G:51 with picture Well (Oil and natural-gas wells), W:144 Gascoigne, George (English author), Gascony (French province), G:60 Hundred Years' War, H:372 Gaseous diffusion Isotope (Separating isotopes), I:427 Uranium (Separating uranium isotopes), U:275 with diagram Gaseous diffusion method Uranium, U:275 with picture Gaseous-discharge lamp Electric light, E:150 Gaseous ionization lon picture on, 1:325 Gaseous nebula Gaseous solution Solution, So:33 Gaseous theory Earth (The birth of the solar system), Waste disposal, W:65 Coal (Coal as a raw material), Cl:122; (Coal conversion) Cl:132 Synthetic fuel, So:518 Gaskell, Elizabeth (English writer), G:60 Alcohol (Ethanol), A:237 Gaspar [Biblical figure] Gaspard de la nuit (music by Ravel) Ravel, Maurice, R:146 Gassendi, Pierre [French philosopher] Materialism, M:254 Surgery (Some common surgical operations), So:438 Digestive system, D:171 with diagram Nutrition (How the body uses food), Gastric stapling procedure Weight control (Surgery), W:135 Stomach (Peptic ulcers), So:334 Ulcer, U:15 with picture Gastritis [disorder], G:60 **Gastrocnemius** Leg, L:153 with diagram Gastroenteritis (infection), G:60 Weight control (Surgery), W:135 Mollusc, M:535 Gastroscope Endoscope, E:244

Gastrula [biology]

Embryo (Human development), E:227

Gauge [size]

Railway, Model, R:113

Railway (Tracks), R:100

Bonnard, Pierre, B:451

Wire (Sizes of wire), W:277

with portrait and picture

Gauguin, Paul [French painter], G:62

Shotgun, S:397

Painting (Postimpressionism), P:78 Tahiti, T:7 Van Gogh, Vincent, V:311 Gauhati Assam (Places to visit), A:670 Gaul [former region], G:63 with map Belgium (History), B:221 Caesar, Julius (Campaigns in Gaul), C:13 France (Early days), F:411 French language (Beginnings), F:444 Rubicon, R:441 Gaulle, Charles André Joseph Marie See De Gaulle, Charles André Joseph Marie Gauls [people] France (Ancestry), F:398; (History) F:411 Galatia, G:10 Gaul. G:63 Gauft, Henry "Pappy" [Australian boxer] Boxing (Boxing in Australia and New Zealand), B:498 Gaungbaung lelothing! Burma (Way of life), B:657 Gauntlet (clothing), G:63 with picture Armour (During the Middle Ages), A:582 with picture Glove, G:213 with pictures Gaur [animal], G:63 Gauss lunit of measure), G:63 Magnetism (Magnetic fields), M:55 Maxwell, M:273 Gauss, Carl Friedrich (German mathematician], G:63 Ceres (asteroid), C:328 Gauss, G:63 Geometry (Rise of non-Euclidean geometry), G:98 Mathematics (in the 1800's), M:260 Gautama See Buddha Gauteng (South African province), G:64 Gautier, Théophile (French poet), G:65 Gauze [fabric], G:65 Weaving (Fancy weaves), W:125 Gavarnie Falis [France], G:65 Gavaskar, Sunil [Indian cricketer], G:65 Cricket (Outstanding cricketers), Ci:432 with picture Gavial [reptile], G:65 with picture Reptile (Crocodilians), R:231 Gawain, Sir Round Table (The Knights of the Round Table), R:411 Gawler Ranges [mountains] South Australia (Land regions), So:108; map on So:110 Gay Homosexuality, H:258 Gay Divorce [music by Porter] Porter, Cole, P:696 **Gay Liberation** Homosexuality, H:258 Gay-Lussac, Joseph Louis [French chemist), G:66

Impressionism (Postimpressionism),

Marquesas Islands, M:216

Boron, B:471 Gas (Charles's law), G:58 lodine (Properties of iodine), 1:325 Gay-Lussac's law Gas (Charles's law), G:58 **Gay rights movement** Homosexuality (Attitudes toward homosexuality), H:258 Gay, John [English playwright], G:66 Drama (European drama: 1660-1800). D:294 Gaya [India] Bihar (Places to visit), B:290 Gaza Strip, G:66 Asia (Way of life in Southwest Asia). A:020 Egypt (Republic), E:117 Israel, 1:429; (The Sinal invasion) 1:439: (The Six War) 1:439: (Recent developments) i:440 fordan (Recent developments), J:145 Middle East (Attempt at peace), M457 Middle East (Palestine), M:456 Middle East (Recent developments), M:457 Palestine Liberation Organization, P:104 Palestine (The continuing conflict), Gazankulu, G:66 South African homelands map on, Gazelle [animal], G:66 with picture Gazelle hound Saluki, S:58 Gazetteer [reference] Dictionary (Specialized dictionaries), D:164 Gazpacho (food) Spain (Food and drink), So:173 General Certificate of Education (GCE), G:76 **GCSE** General Certificate of Secondary Education (GCSE), G:76 Gd (symbol) Gadolinium, G:4 Gdańsk [Poland], G:67 Poland (World War I and independence), P:632; (Communist rule) P:633; (Recent developments) P:633 Gdynia [Poland] Gdańsk (Economy), G:67 Poland picture on, P:634 Ge [symbol] Germanium, G:111 Gear, G:67 with pictures Car (The power train), C:156 with dia grams Transmission (What a transmission does), T:341 with diagrams Truck (Driving trucks), T:423 Gear pump Pump, P:854 Gear ratio Transmission (What a transmission does), T:341

305

Geber (Arabian alchemist), G:68 Gecko [reptile], G:68 with picture Lizard (How lizards move), L:340 Ged, William (British jeweller), G:68

Gedling (Nottinghamshire, England), (38) Geduidige Socrates, Der (music by

Telemann) Telemann, Georg Philipp, T:104

Gedung Gajah Jakarta (Places of Interest), J:13

Geelong Advertiser [newspaper] Geelong, G:69

Geelong [Australia], G:69 Geese

See Goose

Ge'ez [language]

Ethiopia (Population, ancestry, and languages), E:338 Gegenschein (astronomy)

Zodiacal light, Z:500 with picture

Gehenna [religion]

Hell, H:144

Gelger counter (instrument), G:69 with

Prospecting (Today's prospectors), P:810 with picture

Uranium (Locating and mining uranium), U:274

Gelger-Müller counter See Geiger counter

Gelsel, Ernesto (Brazilian political leader

Brazil (Under military rule), B:546 Gelsel, Theodor

Seuss, Dr., S:278 Gelsha

Clothing picture on, Cl:92 japan (Recreation), J:43 Tokyo (Entertainment and recreation),

T:283 Gelssier tube, G:69

Gelssier, Heinrich (German instrument maker)

Gelssler tube, G:69 Gel

Bacteriology (Studying bacteria), B:22 Gelasius I, Saint [pope], G:69

Pope (table), P:679 Gelatin, G:70

Bone (Composition of bone), B:446

Collagen, Ci:164 Glue, G:215 Gell-Mann, Murray (American physicist)

Atom (Recent discoveries), A:730 Nobel Prizes (Physics), N:227 Physics (Advances in the mid-1900's), P:478

Quark, Q:7 Gellée, Claude See Claude

Geller Phenomenon, The book by Wilson

Wilson, Colin, W:261 Gellius, Aulus Roman authorl Latin literature (Later Latin literature), 1.199

Gelsemium (plant), G:70

Poisonous plant (table), P:621 Gem [jewellery], G:70 with pictures

See also list of Related Articles Jewellery, J:108 Lapidary, L:61 with picture

Gern State

Idaho, 1:25

Gemara (religious book) Jews (The Talmudic period), J:114 Judaism (The Talmud), J:155 Talmud, T:18

Gemayel, Amin (Lebanese political leader

Lebanon (Recent developments), L:148

Gemayel, Bashir Lebanese political leader

Lebanon (War and terrorism), L:148 Gemini (astronomy), G:74 with picture Castor and Pollux, C:241

Gemini programme Astronaut, A:681

Space exploration (Voskhod and Gemini: The first multiperson space flights), So:148 picture on So:146

Gemsbok lanimall, G:74

Antelope (Kinds of antelope), A:448 with picture

Oryx, 0:507 Gemsbuck

See Gemsbok

Gendarmerie

Belgium (Armed forces), B:215

Police (France), P:641 Gender (grammar), G:74

German language (Grammar), G:106 Language (Methods of study), 1:50 Noun, N:309

Gene. G:75

Biology (The growth of modern biology), B:307 Brain (Genetic disorders), B:517

Cell (table), C:293; (Before 1900) C:303; (The code of life) C:302

Chromosome, C:498 Cystic fibrosis, Ch:515 Down's syndrome, D:277

Evolution (Causes of evolutionary change), E:407

Gene mapping, G:75 Gene therapy, G:75 Genetics, G:81

Heredity, H:165; (Chromosomes and genes) H:166; (table) H:166

Heredity (patterns of heredity), H:167; (The flow of genetic material) H:170

Heredity (The chemistry of genes), H:174

Hormone (How hormones work),

H:279

Hyperactivity, H:411 Life (Adaptation), L:246

Molecular biology (The beginning of molecular biology), M:532; (Molecular biology today) M:532

Multiple sclerosis, M:694

Muscular dystrophy, M:716 Mutation, M:747

Natural selection, N:48

Plant (How plants reproduce), P:556; (Factors affecting plant growth)

Races, Human (How human populations develop and change), R:47

Reproduction, R:223 Reproduction, Human (How sex is de-

termined), R:227 Tatum, Edward Lawrie, T:67

Tay-Sachs disease, T:72 with pictures Weight control (Heredity), W:134

Gene expression

Heredity, H:165; (table) H:166

Gene flow

Heredity (Gene pools and allele frequencyl, H:169

Gene mapping, G:75

Genetics (Transmission genetics), G:82 Heredity (Hereditary disorders), H:169

Gene pool

Heredity (Gene pools and allele frequency), H:169

Gene regulation

Genetics (Molecular genetics), G:82

Gene therapy, G:75

Genetic engineering (In medicine), Heredity (Hereditary disorders), H:169;

(The era of genetic engineering) H:174

Genealogical and Heraldic Dictionary of the Peerage and Baronetage of the United Kingdom Burke's Peerage, B:653

Genealogy, G:75

Heraldry, H:158

Genealogy of Morals (book by Nietzschel Nietzsche, Friedrich, N:202

Genera

Animal (The scientific classification of animals), A:380

Genus, G:85 General, The [film]

Keaton, Buster, K:208 with picture

General Agreement on Tariffs and Trade (GATT), G:76

Hungary (Foreign trade), H:380 Tariff (History), T:45

General Allotment Act Dawes Act, 1887]

Indian, American (The destruction of Indian Americal, 1:164

General anaesthetic

Anaesthesia, A:348 Dentistry, D:119

Drug. D:313

Ether [chemistry], E:335

Halothane, H:26

Surgery (Anaesthesia), So:436

General Assembly International Law (After World War II),

United Nations (The six major UN organs), U:162; U:165 with pictures

World picture on, W:316

General theory of relativity

Astronomy picture on, A:697; (A new

view of the universe) A:699

General [rank], G:76 **General Tom Thumb** Terman, Lewis Madison, T:156 **General Certificate of Education** See Stratton, Charles Sherwood Genetic variation (GCE), G:76 **General union** Heredity (Sources of genetic variation). General Certificate of Secondary Ed-Trade unions, T:329 H:168 ucation (GCSE), G:76 General William Tecumseh Sherman Heredity (table), H:166 General Chronicle of Spain (book) [sculpture by Saint-Gaudens] Genetics, G:81 Spanish literature (Early medieval liter-Saint-Gaudens, Augustus, \$:33 Biology, B:304; (The growth of modature), So:193 Generall Historie of Virginia . . . ern biology) B:307 General Church of the New Jerusa-[book by Smith] Heredity, H:165; (table) H:166; (The American literature (Virginia), A:310 birth of genetics) H:172 Swedenborgians, So:475 Smith, John, S:499 Prehistoric people (The single origin General circulation Generation [biology], G:78 theory), P:757 Wind, W:267 Alternation of generations, A:289 Science (Other branches), \$:141 **General Conference** Generations of Men, The work by Zoology (What zoologists study), UNESCO, U:25 Wright) 7:506 United Nations (Amending the char-Wright, Judith, W:418 Geneva [Switzerland], G:82 ter), U:162 Generative theory [language] Calvin, John (His life), C:44 **General Electric Company** Linguistics (The generative theory of Presbyterians (History), P:763 Edison, Thomas Alvar (Electric utilities linguistics), L:295 Geneva, Lake and electrical manufacturing), E:81 Generator (vat) See Lake Geneva General Electric Company (GEC), G:78 Vinegar (Making vinegar), V:395 Geneva Accords [international rela-Manufacturing (table), M:168 Generic name tions!, G:82 General Epistles [New Testament] Drug (Drug names), D:317 Indochina, I:181 James, Epistle of, J:22 Wine (Where wine comes from), Vietnam (The division of Vietnam), General History [book] V:381 Spanish literature (Early medieval liter-Genesis [Old Testament], G:78 **Geneva Agreements** ature), So:193 Adam and Eve, A:29 See Geneva Accords General History of Quadrupeds, A Deluge, D:100 Geneva Conventions, G:83 [book by Bewick] Eden, E:75 International law (History), 1:292 Bewick, Thomas, B:265 loseph. I:147 Prisoner of war, P:791 General Line, The [film by Eisenstein] Life (Religious explanation), L:249 Red Cross (The International Red Eisenstein, Sergei Mikhailovich, E:135 Pentateuch, P:266 Cross), R:171 General manager Genet, Jean (French author), G:78 Genghis Khan [Mongol conqueror], Opera, 0:460 **Genetic code** G:83 with portrait and map General Motors Corporation, G:78 Cell. C:302 Asia (People), A:643; (Nomadic inva-Car (Major producing countries and Heredity (How proteins are made), sions) A:658 companies), C:162; (William Crapo Georgia (History), G:103 Durant) C:169 Molecular biology (The beginning of Mongol Empire (Early empire), M:357 Kettering, Charles Franklin, K:239 molecular biology), M:532 Siberia (History), S:407 Manufacturing (table), M:168 Nucleic acid, N:341 Turkmenistan (History), T:468 Nash, Charles William, N:26 Genetic counselling, G:79 Genie [Arabian mythology], G:84 General practice Birth defect (Prevention and treat-Aladdin, A:224 Medicine (The specialities), M:311 ment), B:369 **Genista Shallow** General practitioner Heredity (Hereditary disorders), H:169 Indian Ocean (Ocean floor), I:171 Medicine, M:308 Genetic disorder Genital herpes National Health Service, N:33 Brain. B:517 See Herpes, Genital General-purpose bomb Genetic drift Genital organs Bomb, B:434 with picture Evolution, E:408 Menstruation, M:349 with diagrams General Radio Service Reproduction, Human (The human re-Heredity (Gene pools and allele fre-Citizens band radio, Ci:14 productive system), R:225 with quency), H:169 General relativity theory Races, Human, R:48 diagrams Relativity, R:193 Genetic engineering, G:80 with pic-Sex (Boys and girls), S:290 General sales tax Sexually transmitted disease, \$:293 Taxation (Taxes on transactions), T:69 Biology (Current research and issues), **Genitive** case General Sherman Tree Case, C:224 Sequola (Size), \$:264 with picture Cystic fibrosis, Cl:515 Genius [Roman mythology], G:84 General Strike, G:78 with picture Heredity (The era of genetic engineer-Gennep, Arnold van (French an-Baldwin, Stanley, B:40 thropologist] General Theory of Employment, In-Medicine (The Medical revolution), Rite of passage, R:288 terest and Money, The book by M:317 Gennesaret Genetic fingerprinting Galilee, Sea of, G:12 Capitalism (Changing attitudes toward Fingerprinting, F:111 Genoa [Italy], G:84 capitalism), C:146 Columbus, Christopher (Boyhood), Genetic isolation Economics (New solutions for old Evolution (Evolution of new species), Ci:206 problems), E:65 Venice (History), V:337 Keynes, John Maynard, K:240 Genetic recombination Genocide Icrimel, G:85

Heredity, H:168

Terman

Genetic Studies of Genius Ibook by

Minority group (How a group be-

Racism, R:51

comes a minority), M:500

Heredity (The structure of chromosomes and genes), H:166

Genome

Gene mapping, G:75

Heredity (table), H:166; (The Human Genome Project) H:175

Genotype

Heredity (table), H:166; (Heredity and environment) H:170

Gent |Belgium|

Chent, G:149

Gentian (plant), G:85 with picture

Gentile (people), G:85

Gentile da Fabriano (Italian painter) Painting (Early works), P:54 with pic-

Gentileschi, Artemisia (Italian painter),

Genting Highlands [Malaysia]

Selangor (Places to visit), S:243

Gentle Grafter, The [book by Henry] Henry, O., H:154

Gentleman Dancing Master, The Iplay by Wycherleyl

Wycherley, William, W:425

Gentleman's Agreement [film]

Film industry (Best picture), F:96 Hart, Moss, H:69

Kazan, Elia, K:207

Classification, Scientific (How organisms are classified), Cl:66; (Groups in classification) Ci:67

Geocentric theory

Astronomy (Greek astronomy), A:697 with picture; (The beginnings of modern astronomy) A:697

Science (Ancient Greece), S:143

Geochemical prospecting

Geochemistry, G:86

Geochemistry, G:85

Geology (table), G:92 Geochronology

Geology (table), G:92 Science (Geology), S:140

Geode igeologyi, G:86

Fluorspar, F:276

Geodesic dome

Architecture picture on, A:516 Fuller, Buckminster, F:481 with picture

Geodesy, G:86

Map (Observation and measurement), M:189

Geodetic survey

Geodesy, G:86

Surveying (Types of surveys), So:445 Geoduck [clam], G:86 with picture

Geoffrey Hamlyn (book by Kingsley) Australia, Literature of (The development of the novell, A:830

Geoffrey of Monmouth (Weish historian], G:86

Brut, B:603

Knights and knighthood (Knighthood in literature), K:303

Geoffrey, Count of Anjou (French noblemanl

Henry II, H:151

Plantagenet, P:573

Geoghegan-Quinn, Máire lIrish political leaderl, G:86

Géographe (ship)

Baudin, Nicolas, B:159

Warrnambool, W:41

Geographic grid Map, M:187

Geographic isolation

Evolution (Evolution of new species),

Geographic position

Navigation (Celestial navigation), N:52 with pictures

Geographical county County, Ch:396

Geographical Distribution of Animals (book by Wailace)

Wallace, Alfred Russel, W:23

Geographical races

Africa (Racial groups), A:122

Races, Human (The geographical-race theory), R:44 with map

Geography, G:87 with pictures and map See also list of Related Articles

Evolution (Evolution of new species), E:408; (Geographic distribution of

species) E:410 Geomorphology, G:99

World (Physical features of the world),

Geography (book by Ptolemy)

Map picture on, M:191 Ptolemy, P:833

Geography (book by Strabo) Geology (The ancient Greeks), G:91 Science (Ancient Rome), S:144

Strabo, So:342

Geological catastrophe Cuvier, Baron, Ci:508

Geological Map of England and Wales ... [book by Smith]

Smith, William, S:500

Geological time scale Earth (History of the earth), E:25

Time (Geological time), T:257

Geology, G:91 with pictures

See also list of Related Articles Age (Ages in geology and archaeol-

ogy), A:156 Earth (The earth's crust), E:19 with pic-

tures; (The shaping of the continents) E:25 with map

Gas (Exploring for gas), G:51 Petroleum (Exploring for petroleum),

P:340 Science, S:140

Geomagnetic axis [magnetism] Magnetic equator, M:51 with diagram

Geomagnetic field

Magnetism (The magnetism of the earth), M:57

Geomagnetic North Pole North Pole, N:261

Geomagnetic South Pole South Pole, So:118

Geomagnetism

Earth (The earth's magnetism), E:21 Geometric fractal

Fractal, F:382 with diagrams

Geometric progression

Progression, P:796

Series (Working with infinite theories),

Geometric style [art], G:94

Geometric tracery [architecture] Tracery, T:322

Geometrical optics

Optics, 0:479

Physics (Light), P:473

Geometry, G:94 with pictures See also list of Related Articles Mathematics, M:255; (Branches of

mathematics) M:256

Philosophy (Rationalism), P:424 Science (Mathematics and logic), S:139

Set theory (In geometry), \$:277 with diagram

Geomorphology, G:99

Earth (How the earth changes), E:21 Geography (Divisions of geography),

Geology (table), G:92

Geophone

Gas (Exploring for gas), G:51 Petroleum (Seismograph), P:341

Geophysics, G:99

See also list of Related Articles

Gas (Exploring for gas), G:51

Geology (table), G:92

Petroleum (Exploring for petroleum), P:341

Seismology, S:241

Geopolitics, G:99 Geordies (people)

Tyne and Wear, T:482

George I [king of England], G:99 with

portrait Cabinet, C:3

Prime minister, P:778

United Kingdom, Government of the

(The 1700's), U:122

United Kingdom, History of the (England before 1763), U:141

Walpole, Sir Robert, W:27 George I [king of Greece], G:101

Greece, G:342

George II (king of England), G:100 with

United Kingdom, Government of the

(The 1700's), U:122 George II [king of Greece], G:101

Greece (World War I), G:343; (Between world wars) G:343

George III (king of England), G:100 with

portrait American Revolution (British policy changes), A:323; (The Stamp Act)

A:324: (The Declaration of Independence) A:326

Buckingham Palace, B:608 Cook, James (The transit of Venus),

Ch326 Junius Letters, J:168

North, Lord, N:245

Pitt (William Pitt the Younger), P:526

Pound, P:727 Royal Family of the United Kingdom

New Zealand (Natural resources; pic-

Volcano (Benefits of volcanoes), V:421

New Zealand (Natural resources),

ture), N:160

Geothermal steam

N:161

(History), R:425 Geotropism Kaiser, K:179 United Kingdom, Government of the Plant (Environmental factors), P:562 Prussia, P:823 German Ideology, The Ibook by Mard (The 1700's), U:122 Tropism, T:417 Marx, Karl (Philosophic essays), M:235 United States, History of the (British Geraldton (Australia), G:104 policy changes), U:240 Geraniol German language, G:105 English language (The developmental George IV [king of England], G:100 with Citronella, Ci:17 Geranium (plant), G:104 with picture English), E:282 German literature (The Renaissance), George V (king of England), G:100 with Gerbil [rodent], G:105 with picture Gerhardt, Charles [French chemist] Edward VIII, E:94 Aspirin, A:668 German literature, G:106 Royal Family of the United Kingdom Geriatrics [medicine], G:105 See also list of Related Articles (History), R:425 Drama (Germany), D:296; (Romanti-Aging (Types of aging), A:159 George VI [king of England], G:100 with Diet (Special diets), D:170 cism) D:297 portrait Hip, H:217 Mythology (Teutonic mythology), Royal Family of the United Kingdom Medicine (The specialities), M:311 M:761 (History), R:425 Senility, S:254 German measies [disorder] George, David Lloyd Géricault, Théodore (French artist), Cerebral palsy (Causes), C:328 Lloyd George, David, L:343 Deafness (Birth defects), D:56 George, Saint (legendary figure), G:101 Painting (Romanticism), P:68 with pic-Disease (table), D:190 Donatello, D:264 Mental retardation (Causes), M:357 ture Dragon, D:279 Germ (biology) Rubella, R:439 George, Stefan [German poet], G:101 Bran, B:522 German New Guinea **George Cross** Corn oil. Ci:357 Papua New Guinea, P:157 Decorations, medals, and orders, D:73 Comflour, Ci:358 German opera George Town [Malaysia], G:101 Egg (The parts of an egg), E:97 Opera (Richard Wagner), 0:464 George Washington (work by d'Au-Egg (The yolk), E:98 German pinscher, G:111 laires) Flour (How white flour is milled), F:238 German police dog Wheat (Food for people), W:215; D'Aulaire, D:43 German shepherd dog, G:111 Georges River (Australia), G:101 (Structure) W:216 with diagram German porcelain Georgetown (Guyana), G:101 Germ [medicine] Porcelain, P:689 Guyana, G:434 with picture Antiseptic, A:464 German shepherd dog, G:111 with pic-Georgia (country), G:101 with picture Disease, D:189 and map Gnotobiotics, G:218 Dog picture on, D:231 Flag picture on, F:205 German shorthaired pointer, G:111 Germ layer [biology] Tbilisl, T:76 Embryo (Human development), E:227 Dog picture on, D:227 Georgia (United States), G:103 with map Germ Plasm, The (book by Weismann) German silver United States, History of the (The Weismann, August, **W:142** Alloy (Costly and ornamental alloys), Southern Colonies), U:239 **Germ theory** A:278 Georgia Boy [book by Caldwell] Biology (Materialistic physiology and Nickel silver, N:200 Caldwell, Erskine, C:33 the cell theory), B:307 German Social Democracy book by Georgian architecture, G:104 Drug (The drug revolution), D:318 Russell Australia, art and architecture of. Medicine (The scientific study of dis-Russell, Bertrand, R:461 ease), M:316 German spitz, G:111 Colonial life in America (Houses), Germ warfare German wirehaired pointer, G:111 CI:181 Chemical-biological-radiological warwith picture England (The arts), E:269 German, Sir Edward (British comfare, C:364 House picture on, H:322 German Air Force poserl, G:105 White House (History of the White Air force, A:197 Germanic languages House), W:234 with pictures Language (Language families), L:52 German Army Georgian language Germanium (chemical element), Gt11 Army, A:592 Georgia (People), G:101 German camomile Indium, I:180 Georgian Orthodox Church Camomile, C:61 Zone melting, Z:501 Germany, G:112 with pictures and maps Georgia (People), G:101 German cockroach Geosynchronous orbit [astronomy] See also list of Related Articles Cockroach, Cl:142 Space exploration (Kinds of earth or-Armour (During the Middle Ages), Insect picture on, 1:247 bits), So:131 with diagram German Confederation A:582 with picture Aviation (Aircraft nationality marks), Geosyncline Austria (Metternich and revolution). Earth (The Palaeozoic Era), E:27 A4866 A:881 Geothermal power Germany, G:133; (The unification of Aviation (World War II), A:885 Belgium (The world wars), B:222 Electric power (Other sources of elec-Germanyl G:133 Berlin, B:247 with pictures and map tric power), E:159 Liechtenstein (History), L:244 Energy supply, E:249 German Democratic Republic (East Cameroon (History), C:60 Hot springs, H:317 Germany)

Germany, G:112

Grimm, G:376

Germany, G:134

German Empire

German Dictionary book by Grimml

Berlin (Years of unrest), B:253

Canal, C:111

Christmas, C:489

Classicism, Cl:66

ment), Ci:521

Concentration camp, Ci:272 Czech Republic (The Munich Agree

Car, C:163

(Zechoslovakia (German seizure), CI:524 Decorations, medals, and orders, D:75 Dapression (Effects on society), D:124 Europe (table), E:359 Fascism (History), F:30 Flag picture on, F:208 Greece (World War II), G:343 Hitler, Adolf, H:227 Holocaust, H:249 Immigration (1945-1960. Easing of immigration rules), 1:37 Imperialism (History), 1:46 Industrial Revolution, I:218 Inflation (Hyperinflation), 1:230 with picture jews (Beginnings of Nazi persecution), J:116 Latvia (History), L:104 League of Nations (Disagreement among members), L:135 Library (Famous libraries), L:233 Lithuania (History), L:331 Money (How money developed), M:538; (The value of money) M:551 Napoleon III (His defeat), N:24 Nazism, N:63 Norway (World War II), N:301 Nuremberg Trials, N:351 Painting (Expressionism), P:80 Police, P:641 Porcelain (European porcelain), P:689 Potsdam Conference, P:721 Prussia (German empire), P:823 with Rwanda (History), R:507 Theatre, T:203 Thirty Years' War (Results of the War), T:221 Warsaw (History), W:41 Wine (Wines from Germany), W:274 World War I, W:362 with pictures and World War II, W:378 with pictures and maps Germany: Winter's Tale (work by Helnel German literature (The young Germans), G:109 Heine, Heinrich, H:133 Cormicide Antiseptic, A:464 Disinfectant, D:199 Germinal book by Zolal Zola, Émile, Z:501 Germinal mutation Heredity (Mutation), H:168 Carmination, G:141 Flower (Self-pollination), F:264 Plant, **P:560** Seed (How seeds sprout), S:237 Tree (How seeds sprout into trees), T:379 Germinie Lacerteux (book by Gon-

courts]

Goncourt, Edmond de, G:251

Germiston (South Africal, G:141

Geronimo |American Indian chiefl,

G:141 with portrait Arizona (History), A:574 Autograph picture on, A:871 Indian wars (Apache warfare), 1:177 Gerontology Aging (Types of aging), A:159 Geriatrics, G:105 See also Old age Gerrymander [politics], G:142 with picture Gershwin, George | American composer], G:142 with portrait Musical comedy (Musical comedy matures). M:739 Opera (American opera), 0:466; (Porgy and Bess) 0:472 Gershwin, Ira [American librettist] Gershwin, George, G:142 Opera (Porgy and Bess), 0:472 Gerund (grammar), G:142 Participle, P:205 Gesell, Arnold Lucius [American psychologistl, G:142 Developmental psychology (Maturational theory), D:144 Gesner, Abraham Paraffin, P:160 Petroleum (History of the use of petroleum), P:351 Gesso [art], G:143 Painting (Painting grounds), P:40 Gestalt psychology, G:143 Köhler, Wolfgang, K:313 Psychology, P:830 **Gestalt therapy** Psychotherapy (Other forms of psychotherapy), P:832 Gestapo, G:143 Himmler, Heinrich, H:207 Hitler, Adolf (The New Order), H:230 Nazism (The rise to power), N:63 Gestation Embryo, E:226 Mammal (Reproduction), M:132 Pregnancy, P:741 Gesualdo, Carlo, G:143 Geta (clothing) Japan (Clothing), J:42 Gethsemane [New Testament], G:143 Jerusalem diagram on, J:90 Jesus Christ (The trial), J:100; picture on J:99 Getty, J. Paul [American businessman], G:143 with portrait Gettysburg Address [American historyl, G:144 Lincoln, Abraham, L:286 Pennsylvania (History), P:262 Gettysburg, Battle of, G:144 American Civil War, A:307 Pickett, George Edward, P:487 Getz, Stan [American jazz musician], G:145 Jazz (Cool jazz), J:77; picture on J:76

GeV [unit of energy]

work), P:205

and diagram

Particle accelerator (How accelerators

Geyser (geology), G:145 with picture

Earth (Erosion by water), E:22 Heat (The earth), H:116 Ireland (The inland plateau), 1:22 Steam, So:307 Yellowstone National Park (The Lower Loop), Y:446 **Gezelligheid** Netherlands (People), N:90 Ghalib, Mirza Indian writerl India, Literature of (The birth of nationalism). I:128 Ghan [train], G:146 Ghana [Africa], G:146 with pictures and map Ashanti, A:620 Aviation (Aircraft nationality marks), A:881 Flag picture on, F:200 Police picture on, P:642 Ghana Empire [Africa], G:148 with map Africa (Kingdoms in western Africa), A:150 French West Africa (History), F:455 Mauritania (History), M:269 World, History of the (African civilizations), W:347 Ghare Baire (The Home and the World) [film by Ray] Ray, Satyajit, R:147 Gharial (crocodile) Assam (Land), A:670 **Ghats** Ganges River, G:30 Ghent [Belgium], G:149 Ghent, Treaty of, G:149 Arbitration (International arbitration), A:497 Madison, James, M:33 United States, History of the (The War of 1812), U:244 War of 1812, W:37 **Gherkin** Cucumber, Cl:487 Pickle, P:487 Ghetto, G:149 Anti-Semitism, A:464 Holocaust, H:249 Housing, H:329 Jews (Jews In Christian Europe), J:114 Segregation (Segregation in other countries), S:240 Ghibellines [political group] Guelphs and Chibellines, G:402 Ghiberti, Lorenzo (Italian sculptor), G:149 with picture Donatello, D:264 Relief picture on, R:195 Sculpture (Kinds of sculpture), S:190 Ghiorso, Albert [American scientist] Americium, A:331 Californium, C:40 Curium, Ci:501 Element 104, E:200 Element 105, E:200

Element 106, E:201

Lawrencium, L:121

Mendelevium, M:345

Ghirlandajo, Domenico litalian

Fermium, F:55

Otter, 0:518

Animal picture on, A:383

Giant panda

M:591 with diagrams Asia (Wild animals), A:650 with map painter], G:150 with picture Gibbs, Josiah Willard American physi-Michelangelo (Early life), M:433 Bear, B:171 with picture Ghislanzoni, Antonio (Italian librettist) Panda, P:128 with picture cistl. G:154 Chemistry (Development of physical Opera (Alda), O:467 Giant perch **Ghor** [fault] Barramundi, B:118 with picture chemistry), C:371 Gibbs, May (Australian writer), G:154 Dead Sea. D:53 Giant salamander Gibbsite Ghosh, Amitabh [Indian writer] Salamander, S:47 Giant schnauzer, G:152 with picture Bauxite, B:159 India, Literature of (Contemporary Gibraltar, G:154 with picture and maps trends), l:129 Giant sequoia **Ghost bat** Sequoia, S:264 with pictures Barbary ape, B:104 with picture Bat (Kinds of bats), B:148 Tree picture on, T:371 Europe (table), E:359 Ghost [superstition], G:150 Giant silkworm moth Gibraltar, Strait of, G:155 Halloween (Other Halloween tradi-Moth picture on, M:642; (Giant silk-Treaty, T:369 tions), H:24 worm moths and royal moths) United Kingdom, Armed services of the (History), U:79 **Ghost Dance religion** Indian wars (The Sioux wars), 1:176 Giant spider crab (sea animal) Gibraltar, Strait of, G:155 Gibraltar of America Wovoka, W:412 Animal picture on, A:394 Ghost gum (tree) Crustaceans, Ci:465; picture on Ci:466 Quebec, Q:11 Eucalypts picture on, E:349 Giant star [astronomy] Gibran, Kahlil [Lebanese writer], G:155 Ghost town, G:150 Astronomy (Stars), A:690 Gibson Desert [Australia], G:156 Ghost Writer, The [book by Roth] Star (The size of stars), So:281; (Giants Giles, Ernest, G:159 Roth, Philip, R:407 "Gibson Girl, The" (drawing by Gibson) and supergiants) So:284 Ghosts [play by !bsen] Giant swallowtail Gibson, Charles Dana picture on, Drama (Modern drama), D:298 Butterfly picture on, B:684 0:100 Ibsen, Henrik, 1:4 Hairdressing picture on, H:14 Giant toad **Ghutra** [clothing] Toad (Kinds of toads), T:268 with pic-Gibson, Alfred Australian explorer Saudi Arabia (Food and clothing), ture Giles, Ernest, G:159 S:106 **Glant tortoise** Gibson, Aithea [American sports-Giacobini-Zinner [comet] Animal (Interesting facts about aniwoman], G:155 mals), A:377 with picture Gibson, Charles Dana (American illus Space exploration (Probes to comets), So:145 Giant water bug tratorl, G:155 Glacometti, Alberto (Swiss sculptor), Water bug, W:84 with picture Hairdressing (The 1800's), H:13 G:151 with picture Gibson, David (Australian settler) Giant water scavenger beetle Water beetle, W:84 with picture Sculpture (Assemblages), S:216 with Port Phillip Bay, P:694 Gibson, Mel [Australian actor], G:155 picture Glant's Causeway (Ireland), G:152 with Gide, André [French author], G:156 Glacosa, Giuseppe (Italian librettist) picture French literature (The 1900's), F:450 Opera (Bohème, La), 0:467; (Madama Antrim picture on, A:467 Nobel Prizes (Literature), N:232 with Butterfly) 0:470; (Tosca) 0:473 Giants in the Earth [books by Rölraag] Giaever, Ivar American literature (Realist fiction). portrait Novel (New directions in the novel), Nobel Prizes (table: Nobel Prizes for A:318 physics-1973), N:227 Giardiasis, G:152 N:313 **Giant anteater** Gibanica (food) Gideon [Old Testament], G:156 Croatia (People), Ci:444 Gideons International Ireligious Animai picture on, A:389 Anteater, A:447 with picture Gibber plains groupl, G:156 Glelgud, Sir John (British actor), G:156 Glant [film] South Australia (Location and size), Dean, James, D:58 So:108; (The Central Desert Area) with portrait Film Industry (Best performance by all Giant Ibiologyl, G:151 with picture So:110 actor in a supporting role), F#/ Glant [mythology], G:151 Gibberellic acid Gierek, Edward (Polish political leader) Giant cactus Gibberellin, G:152 Saguaro, S:19 Glbberellin, G:152 G:156 Poland (Communist rule), P:633; (Re-Giant clam Hormone (Plant hormones), H:279 cent developments) P:633 Clam picture on, Ci:50 Plant (Factors affecting plant growth), Giant Galapagos tortoise Glessbach Falls [waterfall] P:562 Switzerland (The Swiss Alps), So:496 Tortoise, T:307 with picture Gibbon, G:152 with picture Giffard, Henri [French engineer **Giant Hercules moth** Ape picture on, A:470 Moth, M:639 with picture; (Giant silk-Mammal diagram on, M:131 Airship (History), A:218 worm moths and royal moths) Primate picture on, P:777 Gift giving M:643 Gibbon, Edward [British historian], Christmas, C:493 Giant hummingbird C:153 Gift tax Taxation (Taxes on transactions), 7170 Hummingbird picture on, H:370 History (Modern times), H:226 Giant keip Rome, Ancient (Learning about ancient Giftblaar, G:156 Kelp, K:214 Rome), R:382 Gifted children, G:156 Gibbons, Grinling [Dutch sculptor], Special education, So:206 Seaweed picture on, S:231 Giant leaf philodendron G:153 with picture Gigantism [disorder] Philodendron, P:419 Woodcarving, W:302 Giant, G:151 **Giant otter** Gibbons, Orlando [English composer], Gigi [book by Colette]

G:153

Gibbous moon

Moon (The phases of the moon),

Colette, Ci:162

Film industry (Best picture), F:96

Gial (film)

Gigi imusical by Lerner! Lerner, Alan Jay, L:184

Gigli, Beniamino, G:157

G.L.Joe (dol1)

Doll (Since the 1950's), D:248

Gil Blas (book by Lesage) French literature (The Age of Reason),

P/448

Lesage, Alain René, L:184 Glla monster, G:157 with picture

Lizard (Defences), L:340 Reptile picture on, R:231

Gilbert and Ellice Islands Gilbert Islands, G:158

Kiribati (History), K:287; (History) K:288 Tuvalu, T:478

Gilbert and Sullivan, G:158

D'Oyly Carte, Richard, D:278 Operetta, O:475

Sullivan, Sir Arthur Seymour, So:398

Glibert Islands, G:158 Kiribati K:288

Glibert, Captain Thomas [British explorer

Tarawa, T:43

Gilbert, Kevin (Aboriginal poet), G:157 Glibert, Sir Alfred [British sculptor],

Glibert, Sir Humphrey (English scholar G:157

Glibert, Sir William S. (British author) D'Oyly Carte, Richard, D:278

Gilbert and Sullivan, G:158

Operetta, 0:475

Sullivan, Sir Arthur Seymour, **So:398**

Glibert, William [English doctor], G:157 Electricity (History), E:171

Gilbreth, Frank Bunker (American engineerl, G:158

Clibreth, Lillian Evelyn Moller (American engineerl, G:158

Cilded Age

United States, History of the, U:254 Cliding (arti, G:158

Gold, G:233

Sculpture (The first sculptors), S:192 Clies Goat-Boy [book by Barth]

Barth, John, B:121

Giles, Ernest (Australian explorer), G:158 with map Cligamesh, Epic of [poem], G:159

Babylonia (Language and literature), B:14

GHI (botany)

Fungi (Common kinds of fungi), F:486 Mushroom (Parts of a mushroom), M:721

City (unit of measure)

Weights and measures (Liquid and dry capacity measurement), W:139

Cili izoologyi, G:159

Amphibian (Breathing), A:340 Animal (Adaptations for breathing), A:399 with picture

Fish, F:169 with picture and diagram Oyster (Body organs), O:540 with dia-

gram GRI, Eric (British sculptor), G:159 with picture

Gill, Samuel Thomas [Australian artist], G:160

Australia, Art and architecture of (Coionial painters), A:782 with pic-

Bushrangers picture on, B:672

Gill heart

Octopus (The body of an octopus), 0:409

Gill raker

Fish (How fish get food), F:172 Gill slit

Ray, R:147

Gillespie, Dizzy [American jazz musician], G:160

Hines, Earl, H:216

azz (Bebop), J:76

Gillingham [England], G:160 Kent (Local government), K:219

Gillray, James | British caricaturist|, G:160 with picture

Gillyflower

Wallflower, W:25

Gilmore, Dame Mary [Australian poet], G:161 with portrait Australia, Literature of (Other poetry),

A:831

Gilmore, Patrick Sarsfield (American bandmasterl, G:161

Gilroy, Sir Norman Thomas Cardinal [archbishop of Sydney], G:161

Gilt Dragon [ship], G:161 Dutch explorers, D:359

Gimbai

Compass (Deviation), CI:249 Gyroscope, G:446 Inertial guidance (How inertial guidance works), 1:227

Glin

Alcoholic beverage (Gin), A:238

Gin, Cotton

See Cotton gin

Ginastera, Alberto | Argentinian composerl, G:161 Argentina (The arts), A:556

Opera (Opera today), O:466 with pic-

Ginger [spice], G:161 with pictures

Gingerbread tree Doum palm, D:274

Gingham itextile), G:162

Gingivitis

Periodontitis, P:282 Teeth, T:96 with picture

Ginkgo [plant], G:162 with picture

Plant (Gymnosperms), P.543 with picture; (Early plants) P:564; (Classification of plants) P:570

Tree, T:376; picture on T:375

Ginsberg, Allen [American poet], G:162 American literature (Poetry), A:319

Ginsberg, Asher [Hebrew journalist] Hebrew language and literature (Modern Hebrew literature), H:130

Ginseng (herb), G:162 with picture Herb picture on, H:161

Gio [people]

Liberia (Recent developments), L:209 Gioconda, La [play by D'Annunzio]

D'Annunzio, Gabriele, D:31

Giorgione [Italian artist], G:162

Painting (Venetian painting), P:60 with picture

Giotto (Italian artist), G:163

Italy (Painting and sculpture), I:458

jesus Christ picture on, J:97 Madonna and Child picture on, M:33

Mural, M:703 with picture

Painting, P:53 with picture Renaissance (Art of the 1300's and

early 1400's), R:218

Giotto [space probe] Halley's Comet, H:22

Space exploration (Probes to comets), So:145 with picture

Giovanni's Room work by Baldwin

Baldwin, James, B:39

Gipps, Sir George [Australian political leaderl, G:163 with portrait

Gippsland, G:163 with picture Squatters in Australia (The Act of 1839), So:252

Glppsland [Australia], G:163 with pic-

Victoria (The Coastal Belt), V:359; picture on V:360

Gippsland giant earthworm, G:164 **Gipsies**

See Gypsies

Giraffe lanimall, G:164 with pictures Animal picture on, A:377

Kenya picture on, K:229 Mammal picture on, M:128

Giraudoux, Jean (French playwright), G:166

French literature (French drama of the mid-1900's), F:450

Girder

Bridge (Girder bridges), B:560 Building construction (Beams, girders, and columns), B:627

Girder bridge

Bridge, B:560 with picture **Girdle**

Reptile (Skeleton), R:232

Adolescent, A:51

Baby, B:4

Child. C:403

Sex. S:290

Girl Guides and Girl Scouts, G:167 with pictures

Baden-Powell, Lord, B:23

Girl Who Loved Wild Horses, The

[book by Goble] Goble, Paul, G:224

Girl's Festival [[apan]

Doll (Doll festivals and customs), D:244 with picture

Giro (banking), G:172 Girona [ship], G:172

Gironde

See Girondists

Girondists (people), G:172

French Revolution (The National Convention). F:453

Marat, Jean Paul, M:196

Robespierre (Revolutionary leader),

R:302

Roland de la Platière, Marie Jeanne, R:332

Girth [riding equipment] Harness diagram on, H:63 Horse (table), H:294; (The saddle) H:295 with picture Saddle, S:7 with picture

Girtin, Thomas (British painter), G:172 with picture

Giscard d'Estaing, Valéry [French political leader], G:172

France (France after De Gaulle), F:417 President (Dual presidency), P:764

Giselle [ballet]

Ballet (Recording choreography), B:52; (Romantic ballet) B:56

Dancing (The rise of romanticism), D:27

Moscow picture on, M:628

Gish, Dorothy [American film actress],

Gish, Lillian [American film actress],

Gissing, George Robert British authorl, G:173

Gitagovinda [poem by Jayadeval India, Literature of (Bengali literature), 1:126

India, Literature of (Medieval literature), 1:126

Gitagovinda ipoem by Kalidasal India, Literature of (Classical Sanskrit literature), I:125

Gitanjali [work by Tagore] India, Literature of (Indian romanticism), 1:128

Gluditta [operetta by Lehár] Lehár, Franz, L:157

Given name

Name, N:9

Giza [Egypt], G:173

Egypt, Ancient (Arts and sciences),

Pyramids (The Pyramids of Giza), P:873 with pictures

Sphinx (Egyptian sphinxes), So:215 with picture

Gizzard, G:173 with diagram Bird picture on, B:353

Chicken (The body of a chicken), C:395 Fish (Digestive system), F:168

Insect (Digestive system), 1:251

Gjöa (ship)

Northwest Passage, N:290 with picture Glacial acetic acid [chemical]

Acetic acid, A:22

Glacial erosion

Earth picture on, E:23

Glacial geology Geology (table), G:92

Glacial lake Lake (How lakes are formed), L:17 with

picture Glaciation

> Earth (Erosion by glaciers), E:22 Ice Age (Development of the Pleistocene Ice Age), 1:6

Glacier, G:173 with pictures

See also list of Related Articles

Andes Mountains, A:355

Antarctica picture on, A:438 Earth (How the earth changes), E:21

Erosion (How erosion occurs), E:322 with picture

Ice Age, I:6 with picture

Glacier Lake (The life of a lake), L:17

Gladiator, G:176 with picture

Colosseum, Ci:190

Helmet picture on, H:146

Rome, Ancient (Recreation), R:374 Rome (The Colosseum), R:368

Gladiolus, G:176 with picture

Gladstone (Australia), G:176

Gladstone, William Ewart British statesman], G:176 with portrait

Conservative Party (History), Cl:305 Ireland, History of (Home Rule and the

Land League), 1:375 United Kingdom, Government of the

(The 1800's), U:123 Glagolitic Mass [work by]anáček] lanáček, Leoš, 1:28

Glaisher, James (British meteorologist), G:177

Glamis Castle

Scotland picture on, \$:164

Glamorgan [Wales], G:177 with pictures and map

See also list of Related Articles Arms picture on, A:589

Gland [anatomy], G:181

See also list of Related Articles with the Gland article

Hair (Glands and muscles), H:11 Skin (Hair, nails, and glands), S:469

Glanders (animal disease), G:184

Glandular fever, G:184

Blood (Infections), B:400 Herpesvirus, H:182

Gianville, Ranuif de [English writer]. G:184

Glaser, Donald A. [American physicist] Bubble chamber, B:605

Glasgow (Scotland), G:184 with pictures

and map See also list of Related Articles Strathclyde Region (Places to visit),

So:347 with picture Glasgow, University of, G:188

Glashow, Sheldon L. [American physicist

Grand unified theories, G:294

Glasnost [Soviet history]

Communism (The Soviet Union under Gorbachev), Cl:243

Gorbachev, Mikhail Sergeyevich, C-256

Iron Curtain, I:403

Russian literature (Recent Soviet literature), R:501

Union of Soviet Socialist Republics (Gorbachev's reforms), U:36

Glass, G:189 with pictures

See also list of Related Articles with the Glass article

Antique, A:464

Ceramics (Glass products), C:326 with

picture

Gern (Imitation and synthetic gems)

Laser (Solid-state lasers), L73

Moon (What the moon is made of, M:586 with pictures

Plastics (To replace glass and ceramics), P:578

Quartz (Properties and uses), Q.9 Sound (table), So:49 Stained glass, So:263 with pictures

Tempering, T:137

Tiffany, Louis Comfort, T:243 Window, W:271

Wire glass, W:278

Glass blowing

Glass (How glass is shaped and finished), G:193 with picture

Glass building blocks

Glass (Kinds of glass), G:190

Glass casting

Glass (How glass is shaped and finished). G:193

Glass-ceramics

Glass (Kinds of glass), G:190; picture on G:201

Glass drawing

Glass (How glass is shaped and finished), G:193 with picture

Glass eel

Eel (Life cycle), E:95

Glass harmonica

Harmonica, H:62

Glass House

Johnson, Philip Cortelyou, J:133 with picture

Glass industry Glass, G:201

Glass Key, The book by Hammett Hammett, Dashieli, H:32

Glass Ilzard, G:202 with picture

Glass Menagerie, The Iplay by Wifllams]

American literature (Drama), A:321 Williams, Tennessee, W:258 with por

Glass of Water, A (play by Scribe) Scribe, Augustin Eugène, S:184

Glass pressing

Glass (How glass is shaped and finished), G:193 with picture

Glass-Steagall Banking Act (1933) New Deal (Helping savers and invest tors), N:109

Glass tubing

Glass (Kinds of glass), G:190

Glass, Philip (American composer),

Glassblowers, The book by du Maurier!

Du Maurier, Daphne, D:345 Glasses [vision], G:202 with pictures

Contact lens, Ci:313

Eye (Defects of the eye), E439 with d agram

Glasshouse Mountains (Australia) G:203

Glassmaking

Belgium (Manufacturing), B:220 with

Glass (Recipes for making glass), G:191; (How glass is made) G:192; (Modern glassmaking) G:197 Classware

Islamic art, I:421

Glasswort [plant], G:203

Gastonbury (England), G:203

Somerset (History), So:38; (Places to visit) So:38

Glastonbury Romance, A [book by Powvs]

Powys, John Cowper, P:733 Glasynys (Welsh writer)

Welsh literature (Later literature),

Glauber, Johann Rudolf (German

chemist

Glauber's salt, G:203

Glauber's salt, G:203

Salts, S:58 Glaucoma, G:203

Beta-blocker, B:262 Blindness, B:388

Eye (Diseases of the eye), E:441

Glauconite [mineral], G:204 Glückauf [ship]

Ship (Tankers), \$:379

Glaze

Ceramics (Making ceramics), C:326 Enamel, E:233

Porcelain, P:687

Pottery (Decorating and glazing), P:724 with picture

Tile, T:247

Glen Coe (Scotland), G:204 Glan Mòr [Scotland], G:204

Scotland (The Highlands), S:163

Glen of Imaal terrier (dog), G:204 Glenbawn Dam [Australia], G:204

Glendower, Owen (Welsh prince),

G:204

Gleneagies agreement, G:204 Glengarry Glen Ross [play by Mamet]

American literature (Drama), A:321 Mamet, David, M:124

Glenn, John Herschei, Jr. (American astronaut), G:204 with portrait

Astronaut picture on, A:683 Cape Canaveral, C:135

Space exploration (Vostok and Mercury: The first human beings in space), So:145 with picture

Glenrowan [Australia], G:205 Glessner House

Architecture (Early modern architecture in Americal, A:534

Richardson, Henry Hobson picture on, R:269

Glia lanatomyl

Brain (The parts of the brain), B:511; (Brain cells) B:512

Nervous system (Parts of a neuron), N:82

Tumour, T:438

Glidden, Carlos |American inventor|, G:205

Invention (The late 1800's), I:318 Sholes, Christopher Latham, S:391 Typewriter (History), T:486

Glidden, Joseph F. [American inventor] Barbed wire, B:105

Glider laircraftl, G:205 with pictures Aerodynamics (Pioneers of aerodynamics), A:73

Aeropiane, Model, A:106

Aeroplane (First manned flights), A:76 with pictures

Cayley, Sir George, C:288

Wright brothers (Flying experiments), W:419

Glider (animal), G:210

Possum, P:710

Gliding

Animal (Wings), A:396

Glima (sport)

Iceland, I:21

Glinka, Mikhail Ivanovich (Russian composerl, G:210

Glioma (disorder)

Tumour, T:438

Glitter rock

Rock music (Rock goes pop), R:313 **Global Oscillation Network Group**

(GONG)

National Optical Astronomy Observatories, N:36

Global positioning system

Surveying (Surveying tools), So:446

Global warming [weather] Greenhouse effect, G:360

Globe [map], G:210 with picture

Great-circle route, G:317 with diagrams

Hemisphere, H:148

Map, M:183; (Map projection) M:187 with diagrams

Globe artichoke

Artichoke, A:609 with picture

Globe Shakespeare, The [book] Shakespeare, William (Editions of the 1700's and 1800's), S:324

Globe Theatre (London), G:210 Burbage, Richard, B:648

London (Expansion beyond the walls), L:373

Shakespeare, William, S:302; (The King's Men) S:302; (Theatre buildings) S:306 with pictures

Globe tulip

Mariposa lily, M:211 with picture

Globin

Haemoglobin, H:5

Globular clusters [astronomy] Hogg, Helen Sawyer, H:242 Milky Way (Shape of the Galaxy),

M:471

Pulsar, P:852

Shapley, Harlow, S:331 Star (Star clusters), So:282

Globulin, G:211

Blood (Protecting against disease), 8396

Drug (Antiserums and globulins), D:312 Gamma globulin, G:26

Liver (Other functions), L:335 Plasma (Functions of plasma), P:575 Glochidia

Larva, L:67

Glockenspiel (percussion instrument), G:211 with picture

Music (Percussion instruments), M:729

Glomar Challenger [ship]

Atlantic Ocean (People and the Atlantic), A:719

Mediterranean Sea (Formation), M:323 Giomerulonephritis [disease]

Kidney (Kidney diseases), K:245

Nephritis, N:77

Glomerulus [anatomy]

Kidney (How the kidneys produce urine), K:244 with diagram

Gloria [music by Poulenc] Poulenc, Francis, P:726

Glorious Adventure, The Ibook by Halliburton

Halliburton, Richard, H:23

Glorious beetle

Beetle picture on, B:199

Glorious Revolution, G:211 England (The Restoration), E:279

James 11, 1:22

Restoration, R:242

United Kingdom, History of the, U:140

William III, W:255

Glossary [reference]

Dictionary (History), D:166

Glossopharyngeal nerve Neuralgia, N:102

Glossopharyngeal neuralgia idis-

orderl Neuralgia, N:102

Glossopteris (fossil)

Australia (Palaeozoic Era), A:767

Giottis Larynx, L:68

Gloucester (England), G:211 Gloucestershire (Places to visit), G:213

Gloucestershire (England), G:211 with picture and map

See also list of Related Articles Arms pictures on, A:584, A:585

Glove [clothing], G:213 with pictures Baseball (Equipment), B:125 with pictures

Virtual reality, V:405

Glover, John [British-born painter], G:214

Australia, Art and architecture of (Co-Ionial painters), A:782 with pic-

Glowworm

Beetle (Fireflies), B:200 Firefly, F:138

Gloxinia (plant), G:214 with picture

Glubb, Sir John Bagot British Army officerl, G:214

Glucagon

Hormone (Metabolic hormone), H:278 Metabolism (Control of metabolism), M:373

Pancreas, P:127

Gluck, Christoph Willibald [German composerl, G:214

Opera (Classical opera), 0:464 Overture, 0:526

Glycogen, G:216

Bernard, Claude, B:258

Football, American (The fleld), F:318 Glucocorticoid Carbohydrate (Complex carbohywith diagram drates), C:187 ACTH, A:27 Football, Association (The goals), F326 Adrenal gland, A:57 Glucose, G:215 Hypoglycaemia, H:417 with diagram Hormone (Metabolic hormones), Hockey (The field and equipment), Liver (Digestion and use of food), H:278 H:237 with diagram Glucose, G:215 Rugby football (The field and equip-Metabolism (Anabolism), M:373 Blood (Blood tests), B:399 ment), R:443 with diagrams Carbohydrate (Simple carbohydrates), Potassium, P:718 Glycol, G:216 Goalkeeper (sports) C:187 with diagram Football, Association (Goalkeeping), Butterfly (Hibernation), B:690 Cellulose (Biological importance), F:332; picture on F:331 Wax (Mineral wax), W:106 C2306 **Glycolysis** Hockey (The game), H:238; picture on Corn syrup, Ci:357 Metabolism (Catabolism), M:374 Dextrose, D:150 Lacrosse (Men's lacrosse), L:10 Glycogen, G:216 Respiration (Cellular respiration), Hunger, H:384 R:240 Goanna [reptile], G:221 with picture Hydrolysis, H:407 Glycoprotein Monitor, M:561 Hypoglycaemia, H:417 Brain (in thinking and remembering), **Goat antelope** Goat (Wild goats), G:221 Liver (Digestion and use of food), Goat, G:221 with pictures L:334 Glyn Dŵr's Rebellion See also list of Related Articles Polymer, P:661 Wales, W:18 Respiration (Cellular respiration), Glyndŵr [Wales], G:217 Animal picture on, A:382 Goat milk Glyph Indian, American (Writing), 1:149 Goat (Products), G:221 Starch, So:292 Sugar (Kinds of sugar), So:390 **Glyptodont** Milk, M:465 Goat water [food] Glucose catabolism Prehistoric animal picture on, P:743 Montserrat (People), M:581 Metabolism (Catabolism), M:374 Gnat [insect], G:217 with picture Giucosylceramide Ichemical com-Gnathostomata Goat willow pound] Fish (A classification of fish), F:179 Pussy willow, P:869 Gaucher's disease, G:61 Gneiss (rock), G:217 with picture Goatee Glue, G:215 Earth picture on, E:20 Beard, B:172 Gobi [desert], G:223 with picture and Woodworking (Fastening), W:307 Rock (Metamorphic rock), R:309 with Glue gesso picture Andrews, Roy Chapman, A:363 Painting (Painting grounds), P:40 Gnome, G:217 Camel picture on, C:52 Gluon, G:216 **Gnomon** [instrument] Mongolia (Land), M:560; map on Boson, B:475 Sundial, So:424 Meson, M:370 **Gnomonic projection** M:559 Plant (Plants of the desert), P:551 with Particle physics (Bosons), P:206 Great-circle route, G:315 with diagram Physics (Physics today), P:478 Map (Azimuthal projections), M:189 picture Goble, Paul [British author], G:224 Quark, Q:7 Gnosis Ireligion! Glutaraldehyde [disinfectant] Gnosticism, G:217 Disinfectant, D:199 Gnosticism, G:217 Fairy, F:9 "Goblin Market" [poem by Rossetti] Gluten Irenaeus, Saint, 1:378 Rossetti, Christina Georgina, R:404 Flour, F:237 Roman Catholic Church (The early Grass (Wheat), G:303 church), R:338 God. G:224 See also list of Related Articles Wheat (Food for people), W:215 Gnotobiotics (science), G:218 Age of Reason (Deism), A:157 Yeast (How yeast is used), Y:442 Gnu [animal], G:218 with picture Gluteus maximus Anselm, Saint, A:426 Africa picture on, A:141 Aquinas, Saint Thomas (His thought, Hip, H:217 Tanzania picture on, T:34 Gluteus medius Go Tell It on the Mountain book by ARIBO Aristotle (Metaphysics), A:568 Hip, H:217 Baidwini Australian Abortgines, A:838 Glutton [animal] American literature (Fiction and other Wolverine, W:291 prose), A:320 Bible, B:270 Ethics (Ethics and religion), E:336 Glycerin Baldwin, James, B:39 India, Philosophy of (The existence of Fat (Structure), F:34 Novel (After World War II), N:314 Nitroglycerin,, N:223 Goa [Indian state], G:218 with pictures God), I:133 Islam (Essential beliefs), 1:414 Tobacco (Manufacturing tobacco and map Judaism (The teachings of Judaism), products), T:271 India, History of (First European con-J:154; (The covenant with God) Glycerol [chemical], G:216 tacts), 1:111 Detergent and soap (The kettle Xavier, Saint Francis, X:432 1:154 method), D:138 Goal [sports] Kabbalah, K:178 Fat (Nutritional importance), F:33; Mysticism, M:750 Football, American, F:324 Mythology, M:751 with pictures (Structure) F:34 Football, Association, F:326 Philosophy (Philosophy and religion) Lacrosse (Men's lacrosse), L:10 with Food (Producing energy), F:295 P:422; (Modern philosophy) P421 Lard, L:65 Lipid (Kinds of lipids), L:302 Polytheism, P:661 Rugby football (Rugby League), R:446 Predestination, P:741 Nitroglycerin, N:223 with picture Resurrection, R:243 with picture Nutrition (Fats), N:363 Rugby football (Rugby Union) (Scor-

ing), R:444

Goal line [sports]

God and Man at Yale (book by Buckley)

cian], G:229

Cities of refuge, Ci:14

Godspeed [ship] Gokhale, Gopal Krishna [Indian politilamestown, 1:24 Godstone and the Blackymor, The Golan [book by White] White, T. H., W:232 Godtháb, G:226 Greenland, G:361 with map Godunov, Boris (ruler of Russia) See Boris Godunov Godwin Austen, Henry Haversham [British surveyor] K2, K:178 Godwin, William [British author], G:226 Godwit, G:227 Goebbels, Joseph (Nazi government officiall, G:227 Propaganda (Between the wars), P:807 World War II (Propaganda), W:403 Goeduck See Geoduck Goeppert, Maria See Mayer, Maria Goeppert Goering, Hermann Wilhelm [Nazi general], G:227 with portrait Hitler, Adolf (Dictator of Germany), H:230 Luftwaffe, L:412 Nuremberg Trials (The trials), N:351 World War II (The air war), W:391 Goes, Hugo Van der See Van der Goes, Hugo Goethe, Johann Wolfgang von German author), G:227 with portrait Classicism (Germany), Ci:66 Colour (Newton and Goethe), Ci:201 Drama (Romanticism), D:297 German literature (The Storm and Stress movement), G:108; (Romanticism) G:109 Gounod, Charles, G:266 Herder, Johann Gottfried von, H:164 Gog-Magog Hills Cambridgeshire (The land), C:50 Gogarty, Oliver St. John Joseph (Irish poet), G:228 Goggles Skin diving (History), S:473 Gogh, Vincent Van See Van Gogh, Vincent Gogol, Nikolai (Russian dramatist), G:228 Drama (Russian drama and Chekhov), D:298 Goh Chok Tong [Singapore political leaderl, G:229 with portrait Singapore (Independence), \$:452 Goh Choo San [Singapore choreographerl, G:229 Going my Way [film] Crosby, Bing, Cl:454 Film industry (Best picture), F:96 Going to the Territory (work by Ellisonl Ellison, Ralph, E:218 Goitre, G:229 Iodine (Uses of Iodine), 1:324 Kocher, Emil Theodor, K:312 Nutrition (Mineral deficiencies), N:368 Trace elements, T:322 Gold rush, G:238 with pictures

Golan Heights, G:229 Israel (The Yom Kippur War), I:439 with maps Middle East (Continuing conflict), Syria (The continuing Arab-Israeli conflict). So:525: (Recent developments) So:525 United Nations (Arab-Israeli conflicts), U:175 Golconda (novel by Palmer) Australia, Literature of (Modern novels), A:832 Golconda (painting by Magritte) Magritte, René, M:61 Gold, G:230 with pictures See also list of Related Articles Alloy (Costly and ornamental alloys), Bullion, B:642 Carat, C:185 Free State, F:431 Gauteng (Economy), G:64 Gilding, G:158 Metallurgy (Leaching), M:376 Mineral picture on, M:484 Montana, M:573 New Zealand, History of, N:171 South Dakota (Economy), So:116 Teeth (Filling a cavity), T:94 Victoria (History), V:364; picture on V:366 Welcome Stranger, W:142 Gold Coast (Africal Ashanti, A:620 Ghana, G:146 Gold Coast [Australia], G:238 Queensland picture on, Q:17 Gold leaf, G:238 Gold, G:233 Gold-leaf electroscope [instrument] Electroscope, E:195 Gold (Money), G:233 **Gold mining** Australia, History of, A:794 with picture; (Toward a nation (1850)) A:806; (Gold) A:807 Eureka Stockade, E:354 Gauteng (Economy), G:64 with picture Gold (How gold is mined), G:231 with pictures; (Gold in the new world) G:236 with pictures Lalor, Peter, L:32 South Africa (Mining), So:66 with pic-South Africa, History of (The mining revolution), So:81 Western Australia (Mining), W:181; (Gold) W:182 Gold mining licence Australia, History of, A:807 **Gold record** Recording industry (Recording industry awards), R:168

See also list of Related Articles

Immigration (1850-1900, Gold rushes

and recession). 1:36 Kalgoorlie, K:181 Klondike, K:296 with picture Northern Territory (History), N:284 Westward movement (The Southwest), W:198 with picture Gold standard [economics], G:239 Exchange rate, E:413 Goldberg variations [music by Bach] Bach, Johann Sebastian (His works), B:16 Canon, C:131 Goldberg, Arthur Joseph [American lawyer], G:239 with portrait Goldberger, Joseph [American doctor], G:239 Pellagra, P:248 Vitamin (History), V:412 Goldcrest (bird) Kinglet, K:257 Golden Age, G:239 Age, A:156 Athens, A:709 Elizabeth I, E:212 England (The reign of Elizabeth I), E:278 Greece, Ancient (The rivalry between Athens and Sparta), G:352 with pictures Greek literature, G:357 Gupta dynasty, G:430 Jews (The Jews under Islam), J:114 Latin language (Development), L:97 Latin literature, L:99 Netherlands (Prosperity and power), N:98 Russian literature (Early romanticism), D:498 Scandinavian literature, S:120 Spanish literature, So:194 World, History of the (The Greeks), W:338 Golden Age, The [book by Grahame] Grahame, Kenneth, G:285 Golden Age, The [film] Buñuel, Luis, B:646 **Golden Age of Irish Literature** Irish literature (The Golden Age), I:381 **Golden Age of Saturn** Age (Golden Age), A:156 Golden Age of Spanish Drama Drama, D:292 Golden and brown rove beetle Beetle picture on, B:199 Golden apples [Greek mythology] Hercules (The second six Labours), H:164 Hesperides, H:187 Golden Apples (book by Rawlings) Rawlings, Marjorie Kinnan, R:147 Golden Ass. The book by Apuleius] Latin literature (Later Latin literature), L:99 Golden beryl Beryl, B:261 Golden Bough, The [book by Frazer] Frazer, Sir James George, F:428

Goldenrod (plant), G:240 Magic (Kinds of magic), M:45 Flower picture on, F:253 Mythology, M:764 Golden Bowl, The [book by James] Insect picture on, 1:246 Goldenseal (plant), G:241 James, Henry, J:22 Goldfields Golden carp [fish] Gold (Life on the goldfields), G:237 Goldfish, G:241 Goldfields Region [Australia] Golden chain Western Australia (The Plateau), Wills Laburnum, L:6 **Goldfields Water Supply Scheme** Golden Cockerel, The Imusic by Rimsky-Korsakovl [Australia] Rimsky-Korsakov, Nikolai, R:278 O'Connor, C. Y., 0:405 Golden eagle [bird] Goldfinch, G:241 with pictures Bird picture on, B:322 Eagle, E:2, E:5 Golden Fleece (Greek mythology), Finch, F:109 Goldfish, G:241 with picture G:239 Argonauts, A:565 with map Goldin, Horace (American magician) Jason, 1:67 Magician (Illusions), M:48 Medea, M:304 Golding, Sir William [British novelist, Golden-fronted leafbird G:242 Nobel Prizes (Literature), N:233 Bird picture on, B:324 Novel (After World War II), N:314 Golden Gate Bridge, G:240 Goldman, Edwin Franko | American Bridge (table: Suspension), B:565; picbandmaster), G:242 ture on B:566 San Francisco (History), S:65 Goldman, Emma [Russian-American so-Golden Grove (ship) cial reformer!, G:242 Goldmark, Peter American engineer First Fleet (The fleet), F:148 Golden hamster Record player (History), R:166 Goldoni, Carlo [Italian playwright], Hamster, H:37 G:243 Golden Hind [ship] Drama (Italy), D:295 Drake, Sir Francis (Voyage around the Italian literature (The baroque period world), D:281 with picture and the Age of Reason), 1:445 Golden Horde [Russian history] Goldsmith, Oliver [Irish-born author, Mongoi Empire (Breakup), M:559 Russia (Mongol rule), R:485 C:243 Drama (European drama: 1660-1800), Golden Horn Istanbul (The City), I:441 D:294 Irish literature (Drama), 1:382 Golden Hynde, The [poetry by Noyes] Noyes, Alfred, N:317 Newbery, John, N:176 Goidsmithing lartl, G:243 Golden Lover, The [play by Stewart] Goldstone, Richard (South African Stewart, Douglas, So:323 judgel, G:243 Golden Mile (Australia), G:240 Goldwater, Barry Morris | American Golden Notebook, The (book by Lesspolitician], G:243 ingl Goldwyn, Samuel [American film pro-Lessing, Doris, L:187 Golden pheasant ducerl, G:243 Golf, G:244 with pictures Pheasant (Kinds of pheasants), P:360 See also list of Related Articles with with picture the Golf article Golden plover Fife Region (Recreation), F:72 Bird (Birds of the Arctic), B:320 with Scotland (Recreation), S:161 with pic picture ture Golden section, G:240 Golf ball Golf (The equipment), G:245 Dog picture on, D:226 Golf club Golf (The equipment), G:246 with pic

Golden rectangle Golden retriever [dog], G:240 Golden Road [trade route] Turkestan, T:453 Golden rule (religion), G:240 Religion (A code of conduct), R:198 Golden section [geometry], G:240 with diagram Golden Temple [India]

Amritsar, A:344 with picture India, History of (The Gandhi premiership), 1:119 Punjab picture on, P:861 Sikhism, S:416 with picture Golden Wall, The painting by Hof-

mann)

Hofmann, Hans, H:241

Golgi Cell [anatomy] Golgi, Camillo, G:251 Golgi complex Cell (The cytoplasm), C:295 with dis

tures

Golf, G:244 with pictures

Golfe Bonaparte (Australia)

Baudin, Nicolas, B:159

Golfe Josephine (Australia)

Baudin, Nicolas, B:159

N:230

Golgi, Camillo litalian anatomisti, G25

Nobel Prizes (Physiology or medicine

Golf course

grams

Golgotha

Calvary, C:44

lesus Christ (The Crucifixion), J:100 Gollath Biblical figure), G:251

David (Early life), D:44

Giant., G:152

Goliath beetle

Reetle, B:196

Insect (The variety of insects), 1:242;

picture on 1:240

Golkar (political party)

Indonesia (Government), I:183; (Economic development) I:203

Comateswara, Saint

Religion picture on, R:197

Comel

Belarus (Government), B:208

Cómez, Conzalo de Espinosa

Magellan, Ferdinand (The end of the vovage), M:43

Gomorrah

See Sodom and Gomorrah

Gomułka, Władysław [Polish political

Poland (World War II), P:632; (Communist rule P:633

Conad [anatomy]

Hormone (Growth and sex hormones). 10278

Conadotropic hormone

Hormone (Growth and sex hormones), H:278

Conadotropin

Hormone (Growth and sex hormones), H:278

Sterold (The adrenal steroids), So:320

Conadotropin-releasing hormone Hormone (Growth and sex hormones),

H:278 Destrous cycle (Environmental regula-

tion), 0:414 Goncourt, Edmond de [French author],

French literature (Naturalism), F:449

Goncourt, G:251 impressionism (Music, literature and

sculpture), 1:47 Concourt, Jules de [French author],

G:251 French literature (Naturalism), F:449

Concourt, G:251 Impressionism (Music, literature and

sculpture), 1:47 Concourt Journal (book by Goncourt)

Goncourt, G:251

Concz, Arpád ipresident of Hungaryl Hungary (Recent developments), H:383

Condola lairship]

Airship (How airships fly), A:217 with picture

Gondola [boat], G:251 with picture Europe picture on, E:357 Italy picture on, 1:462

Venice, V:335

Condollers, The lopera by Gilbert and Sullivan

Gilbert and Sullivan, G:158

Gondwanaland

Earth (The shaping of the continents),

Gone with the Wind (book by Mitchell) Mitchell, Margaret, M:517

Gone with the Wind [film]

Film industry (Best picture), F:96; (Films in the 1930's) F:102 Mitchell, Margaret, M:517

Gong [percussion instrument], G:252 with picture

Góngora, Luis de (Spanish poet), G:252 Spanish literature (The 1600's), So:194

Gongorismo [movement] Góngora, Luis de, G:252

Gonne, Maude [Irish nationalist], G:252 Yeats, William Butler, Y:444

Gonolek

Shrike, **S:400**

Gonorrhoea, G:252

Gonzagaás Antônio [Brazilian poet] Latin-American literature (Colonial literature). L:95

Gonzales, Pancho American tennis player], G:253

González Videla, Gabriel

Chile (Years of progress), C:426

Gonzalo de Berceo

Spanish literature (Early medieval literature), So:193

Good as Gold |book by Heller]

Heller, Joseph, H:145

Good Companions, The book by Priestlev!

Priestley, John Boynton, P:776

Good Earth, The [book by Buck] Buck, Pearl S., B:608

Good Friday, G:253

Easter, E:43 Friday, F:459

Holy Week, H:252 See also Jesus Christ

Good Hope, Cape of See Cape of Good Hope

Good luck

Superstition (Kinds of superstition), So:429 with pictures

Good Neighbor Policy

Roosevelt, Franklin Delano, R:388

Good Samaritan

Samaritans, S:61

Good Samaritan [book by O'Hara]

O'Hara, John, 0:417

Good Soldier, The [book by Ford] Ford, Ford Madox, F:339

Goodall, Jane (British zoologist), G:253 with picture

Goodbye, Columbus (book by Roth) Roth, Philip, R:407

Goodbye, Mr. Chips [book by Hilton] Hilton, James, H:205

Goodbye to All That [book by Graves] Graves, Robert, G:307

Goodbye to Berlin book by Isherwood)

Isherwood, Christopher, 1:412

Goodfellow, Robin

Puck, P:845 with picture Goodman, Benny [American musician],

lazz (The 1920's), 1:75; (The swing era) 1:76 with picture

Goods

Economics, E:59

Income (Types of income), k52

Goods and services

Economics table on. E:65

Goodwin Sands [England], G:253

Goodwood [England]

Sussex, So:447; (Places to visit) So:449 Goody-Two-Shoes [book by Newbery]

Newbery, John, N:176

Goodyear, Charles | American inventorl. G:253

Invention (Creative insight), I:313 Rubber (Discovery of vulcanization),

R:430

Googol (number), G:254

Googolplex (number)

Googol, G:254

Goolagong, Evonne

See Cawley, Evonne

Goose, G:254 with pictures Bird picture on, B:318, B:320

Brent goose, B:553

Canada goose, C:108

Egg (Birds' egg), E:97

Poultry, P:726 Goose, Elizabeth

Mother Goose (Who was Mother Goose?), M:644

Goose barnacle

Barnacle picture on, B:113

Goose down

Goose, G:254

Gooseberry, G:255 with picture Goossens, Leon Jean [British oboist],

C:255

Goossens, Marie Henrietta [British harpistl, G:256

Goossens, Sidonle (British harpist), C:256

Goossens, Sir Eugene (British musicianl, G:255

Gopher (animal), G:256 with picture

Gopher tortolse Tortoise, T:307

Gorbachev, Mikhall S. Russian political leader], G:256

Bush, George (Foreign affairs), B:669 with picture

Cold War (The Cold War continued). Ci:160; (The end of the Cold War) Ch:161

Communism (Under Stalin's successors), Ci:241; (The Soviet Union

under Gorbachev) Cl:243

Disarmament (History), D:186 Estonia (History), E:333

Europe (Recent developments), E:392

Latvia (History), L:104 Lithuania (History), L:331

Nobel Prizes (Peace), N:235 North Atlantic Treaty Organization

(History), N:259 Politburo, P:647

Russia (The rise of Gorbachev), R:491 with picture; (The breakup of the

Gordian knot U.S.S.R.) R:492 Russian literature (Recent Soviet literature), R:501 Tikhonov, Nikolai Aleksandrovich, World, History of the (The easing of Cold War tensions), W:358 Yeltsin, Boris Nikolayevich, Y:447 Gordian knot (Greek mythology), G:257 Gordimer, Nadine [South African writer]. G:257 Nobel Prizes (Literature), N:233 South Africa (Arts), So:61 Gordius (king of Phrygia) Gordian knot, G:257 Gordon (Scotland), G:257 Gordon, Adam Lindsay [Australian poetl, G:257 Gordon, Charles George British soldier], G:258 Sudan (Egyptian and British control), 50:384 Gordon, George See Aberdeen, Earl of Gordon, John Campbell Hamilton See Aberdeen and Temair, Marquess Gordon, Richard [British author], G:258 Gordon, Sir Arthur British government Fiji (History), F:78 Gordon, Yehudah Leib [Hebrew writer] Hebrew language and literature (Modern Hebrew literature), H:125 Gordon Riots, G:258 Gordon River Dam, G:258 Dam (Some important dams), D:14 Lake Pedder, L:28 **Gordon River Power Development** Scheme Tasmania (Power projects), T:59 Gordon setter [dog], G:258 Dog picture on, D:227 Gordon, Adam Lindsay (Australian writer Australia, Literature of (The development of poetry), A:830 Gordonstoun School (Scotland) Hahn, Kurt H:8 Gore, Al [American vice president], G:258 with portrait Gore, Charles [British religious leader] Oxford Movement, 0:532 Gore-Booth, Constance Georgine Markievicz, Countess, M:214 Gorgas, Colonel William C. [American Panama Canal (Victory over disease), P:125 Gorge Weir Burdekin River Irrigation Project, Gorgias [Greek orator] Oratory (Beginnings), 0:484 Sophists, So:44 Gorgonian (coral), G:258

Gorgons (Greek mythology), G:258

Medusa, M:323 Gorilla, G:259 with pictures

Africa picture on, A:141 Animal picture on, A:389 Ape picture on, A:470 Fossey, Dian, F:367 Human being picture on, H:347 Gorilla Hunters, The book by Bailantyne) Ballantyne, R. M., B:45 Gorki, Maxim [Russian novelist], G:261 Russian literature (Late realism), R:499 Science fiction (The 1900's), S:151 Gorki [Russia] See Nizhniy Novgorod Gorki Park [Moscow] Moscow (Entertainment and recreation), M:628 with picture Gorky, Arshile (American artist), G:261 with picture Goroka [Papua New Guineal, G:261 Gorse, G:261 Gorton, Sir John (Australian political leaderl, G:261 with portrait Australia, History of (Politics), A:824 Gosford [Australia], G:261 Goshawk Hawk, H:83 with picture Goose (The life of a wild goose), G:255 Gosnold, Bartholomew (English navlgator, G:261 Cape Cod, C:135 Gospels [New Testament], G:262 Bible, B:273 Jesus Christ, J:96 New Testament (Books), N:135 Gosport [England], G:262 Gosse, Sir Edmund (British poetl, G:262 Gösta Berling's Saga (book by Lagerlöf) Lagerlöf, Selma, L:15 Göta Canal [waterway, Sweden] Sweden (Recreation), So:466 Göteborg [Sweden], G:262 Gothenburg See Göteborg Gothic architecture Architecture, A:524 with picture England (The arts), E:269 Gargoyle, G:44 with picture Gothic art, G:263 with pictures Notre Dame, Cathedral of, N:305 with picture Reims, R:189 with picture Gothic art, G:263 with pictures Europe (The arts), E:368 Furniture (The Middle Ages), F:494; (Historical revivals) F:505 Painting (Gothic painting), P:52 Tracery, T:322 with picture Gothic cathedral Cathedral (Architectural history), C:264 Gothic novel, G:264 American literature (The romance). Novel, N:312 Romance, R:348

ture), R:360

Architecture, A:531 with picture

Gothic Revival

Gothic sculpture Sculpture (The 1000's), S:209 Goths [people] Alaric,, A:251 Spanish language (Beginnings), Source Gotland [island, Baltic Sea] Lombards, L:364 Sweden (The land), So:468 with map Gottfried von Strassburg [German poetl, G:265 Gottlieb, Adolph [American artist]. G:265 with picture Gottmann, Jean French geographed Megalopolis, M:324 Gottsched, Johann (German dramatist Drama (Germany), D:296 Gottwald, Klement (prime minister of Czechoslovakial Czech Republic (Communist rule), CE521 Czechoslovakia (Communist rule), CE524 Götz von Berlichingen (work by Goethel Goethe, Johann Wolfgang von, 6:227 Gouache [art] Painting (Watercolour painting), Pali with picture Goudy, Frederic William American type designerl, G:265 Book (The 1800's), B:457 Gouge Woodcarving, W:303 Goulart, João [president of Brazil] Brazil (Return to constitutional govern ment), B:545 Goulash [food] Hungary (Way of life), H:376 Goulburn Itown, Australial, G:265 Gouiburn River [NSW, Australia] Goulburn, G:265 Goulburn River (Victoria, Australia) Goulburn, G:265 Gould, Glenn (Canadian planist, G:265 Gould, John (British ornithologist), Gould, Shane LAustralian swimmer, G:266 Gould, Sir Francis Carruthers (British artist John Bull, J:130 Gouldian finch Bird picture on, B:332 Gounod, Charles [French composer] G:266 Opera (Faust), 0:470 Gourd, G:266 with picture See also list of Related Articles Gout [disorder], G:266 Arthritis (Other forms of arthritis), A:607 Gouty arthritis Gout, G:266 Gove Peninsula [Australia], G:266 Government, G:267 with pictures Romanticism (Romanticism in litera-Assyria, A:676 Byzantine Empire, B:700 Capitalism, C:144; (The government

Socialism, So:8 Government regulation, G:277 See also list of Related Articles Business, B:674 City (Solving city problems), CL37 Food additive, F:304 Industry, 1:223 Governor (instrument), G:278 with diagram Petral engine (Fuel system), P:334 Governor general [office], G:278

Address, Forms of, A:41 Canada, Government of, C:92 Canada, History of (The return of Mac-

donald), C:101 Covernorate Igovernment Egypt (Local government), E:106

Gower Peninsula [Wales], G:279 Clamorgan (Places to visit), G:180 Rite of passage, R:288 University picture on, U:269

Hoffman, Dustin, H:240

Nichols, Mike, N:200

machineryl, Cl:310

Wool (Processing wool), W:311

Grading [industry]

Timber, T:250

Graduate, The (film)

Graduation, G:281

Road, R:296

Gradus ad Parnassum Imusic by Clementil Clementi, Muzio, Ci:74 Graeco-Roman Age

Greek literature, G:358

See also list of Related Articles Agriculture (Food products), A:162;

(Caring for livestock) A:165 Food (Sources of food), F:294

Food supply (Cereal grains), F:311;

(Making farmland more productive) F:313; (Reducing the demand

for feed grain) F:314 Grass (Kinds of grasses), G:302

India (Agriculture), 1:72

Livestock (Feed), L:338 Prehistoric people (The rise of agricul-

ture), P:758 Reaper, R:161 Threshing machine, T:230 Watermills, W:100

Grain drill

Grain lunit of measure] Apothecaries' weight, A:473 Avoirdupols, A:889

Grain Coast Liberia (History), L:207

Oats (Growing oats), 0:377 Grain elevator

Grain store, G:286 Grain silo

> Grain store, G:286 with picture Wheat (Transporting and storing wheat), W:222

Grain size Alloy (Characteristics of alloys), A:277

Grain sorghum, G:286 Sorghum, So:44 with picture Grain store, G:286 with picture

Grain weevil (insect), G:287 with picture

Grainger, Percy Aldridge (Australian musician], G:287 Gram [unit of measure], G:287

Metric system (Weight and mass measurements), M:386 Weight, W:133

Gram, C. J. (Danish bacteriologist) Antibiotic (Antibacterial antibiotics),

A:456 Grammar, G:287 See also list of Related Articles

English language, E:281 Language (Methods of study), L:50 Latin language, L:97

Linguistics (Comparative and historical research), L:294

Grammar of Assent, The book by Newmanl

Newman, John Henry Cardinal, N:179 Grammar of Science [book by Pearson]

Pearson, Karl, P:237 Grammar school

United Kingdom, Educational systems of the (History), U:102

Grammatical structure Language (The makeup of language), L:50

Gramme, Zénobe Théophile (Belgian electrical engineerl

Electric motor (History), E:156

Grammy Awards

Recording industry (Recording industry awards), R:168

Gramophone

Edison, Thomas Alva (The phonograph), E:78 with picture Record player (History), R:166

Gramophone record

Record player (How gramophone rec-

ords are made), R:164 with diagrams

Gramp, Johann [Australian wine producer]

Barossa Valley, B:117 Grampian Mountains [Scotland]

Grampian Region, G:289 Scotland (The Highlands), S:163 with map

Grampian Region [Scotland], G:289 with map and pictures See also list of Related Articles

Arms picture on, A:589 Grampians [mountain range, Australia],

Victoria picture on, V:362

Gran Chaco [South America], G:291 Argentina (The land), A:557 with pic-

Bolivia (Territorial losses), B:430 Latin America (Border disputes), L:92 Paraguay (The Chaco), P:164 South America (The Central Plains).

Granada [Meorish kingdom], G:291 with map

Granada [Nicaraqua], G:291 Granada [Spain], G:291 with picture Alhambra, A:267 with picture

Granada Studios Tour, The Manchester (Places to visit), M:144

Granary Bihar picture on, B:289

Granary of Queensland [Australia] Darling Downs, D:36 with picture

Granary weevil Weevil, W:133

Grand Alliance (European history), G:292

Succession wars (The War of the Spanish Succession), So:378

Grand Bahama (island)

Bahamas, B:28 with map; (Land and climate) B:29

Grand Banks [Canada], G:292 with map Cabot, John, C:7

Cod (Cod fishing and marketing), C2:146

Fishing industry (Atlantic Ocean fisheries), F:189

Grand bleu de Gascogne, G:292 Grand Canal [waterway, China] Canal (China), C:111; picture on C:109 China (Transportation), C:456 Sui dynasty, So:395

World, History of the (China), W:345 Grand Canal [waterway, Venice] Venice (The city), V:335 with map

Grand Canyon [U.S.A.] Earth picture on, E:22 Erosion (Effects of erosion), E:322 Fossil picture on, F:370 Grand Canyon National Park, G:292

Grand Canyon National Park [U.S.A.], G:292 with map and picture

National parks (North America), N:42 with picture Grand Coulee Dam, G:294

Dam (table), D:13; (Some important dams) D:14

Grand Design [European history] Peace (From the 1400's to the 1700's), P:224

Grand Design, The Inovel by Dos Passos] Dos Passos, John, D:271

Grand Dictionnaire Universel du xixe Siècle (book by Larousse)

Encyclopedia (Today's encyclopedias)

Grand Dixence dam Dam (table), D:13

Grand Illusion [film]

Film industry (Films in the 1930's), F:102 with picture

Renoir, Jean, R:222

Grand jury [law], G:294 **Grand Kremlin Palace**

Moscow (Famous landmarks), M:625 with map

Grand Lama

Tibet (Religion and culture), T:237

Grand mal

Epilepsy, E:312

Grand Metropolitan plc, G:294 Grand National [horse race], G:294 with

Steeplechasing, So:311

Grand opera

Opera (table), 0:457; 0:464

Grand Palace (Bangkok) Bangkok (The city), B:79

Grand piano

Piano, P:483 with picture Grand Prix thorse showl

Horse (Showjumping), H:300

Grand Prix [race]

Car racing (Formula One racing), C:180

Grand Prix Circuit

Tennis (Tennis tournaments), T:146

Grand Slam [bomb] Bomb (History), B:436

Grand slam (cards) Bridge (Bidding), B:567

Grand slam [golf] Golf (Tournaments), G:249

Grand slam (tennis) Court, Margaret, Ci:401

Laver, Rod, L:108

Tennis (Tennis tournaments), T:146 Grand Tour

Tourism (History), T:312

Grand Trianon [palace, Versailles] Trianon, Treaty of, T:398

Versailles, V:348

Grand Trunk Canal Industrial Revolution (Waterways),

1:215

Grand Trunk Road

Bihar (Transportation and communication) tion), B:288

Grand Turk (island)

Turks and Caicos Islands, T:469 with picture

Grand unified theories (physics), C2294

Grand, The [aeroplane] Aeroplane picture on, A:79

Grandissimes, The book by Cable American literature (Realists), A:315 Cable, George Washington, C.7

Grandma Moses

See Moses, Grandma

Grandmother's Tale and Other Stor ries [book by Narayan]

Narayan, R. K., N:24

Grandparent Family (Family relationships), F:20 Granite irockl, G:295 See also list of Related Articles Earth picture on, E:20 igneous rock, 1:28 Mineral picture on, M:483 Ocean (How the sea floor was formed), 0:398 Rock (Intrusive rocks), R:307 with pictranium (Sources of uranium), U:272 Moss, M:636 with picture Granite paper Stamp collecting (Paper), So:271 Cranite Plateau Austria, A:862 with map Granite State New Hampshire, N:115 Granitic pegmatite Tourmaline, T:313 Granieno Hackberry, H:3 Granny Smith (apple), G:296 Apple picture on, A:476; (table) A:477 Grant Scholarship, S:127 Grant, Cary [American film actor], G:296 with portrait Film Industry (Films in the 1930's), F:102 with picture Grant, Ulysses S. (U.S. president), G:296 with picture American Civil War (Grant and Lee in Virginia), A:307 Lee, Robert Edward, L:150 Uncoln, Abraham (The Civil War), L:285; (The Gettysburg Address) L:286; (The end of the war) L:286 Sheridan, Philip Henry, S:354 Sherman, William Tecumseh, S:356 United States, History of the (Government and the people), U:254 Grantham (England) Lincolnshire (Places to visit), L:288 Grantown-on-Spey [Scotland] Badenoch and Strathspey, B:23 Grant's gazelle Gazelle, G:66 Granulation (chemistry) Honey (Kinds of honey), **H:264** Sugar (In the food industry), So:390 Granule [sun] Sun (table), So:410; (The sun's surface) So:414 Granville-Barker, Harley (British play-Wrightl, G:296

cism), S:325

Grape, G:296 with pictures

Italy (Agriculture), 1:463

France (Agriculture), F:409

P:703 with picture

Raisin, R:121

Grape vine grapes) G:298 Raisin (Growing grapes), R:122 Grapefruit, G:298 with pictures Tangelo, T:27 beckl A:318 Dust Bowl, D:357 Steinbeck, John, So:312 Grapes of Wrath, The [film] Ford, John, F:341 Grapevine Grape, G:296 with picture Graph [mathematics], G:299 with pictures Algebra (Functions), A:257 diagrams with diagram Graphic art Associated Press (AP), A:673 Graphic arts, G:300 See also list of Related Articles **Graphic instruments** Instrument, Scientific, 1:267 Graphite [mineral], G:300 Carbon (Forms of carbon), C:188 Charcoal, C:348 Mineral picture on, M:484 Pencil. P:254 Powder metallurgy, P:730 new materials), So:353 Graphology [writing], G:301 Graptolite Australia (Palaeozoic Era), A:767 Earth (The Palaeozoic Era), E:27 Grasmere (England) Cumbria (Places to visit), Ci:496 **Grasping foot** Bird picture on, B:350 Grass, G:301 with pictures See also list of Related Articles Artificial turf, A:613 Brome grass, B:585 Lawn, L:118 Marram grass, M:217 Prairie (Climate and soil), P:737 Shakespeare, William (Modern critiafter 1945), G:110 Grass is Singing, The [book by Lessing] Lessing, Doris, L:187 Grass skirt [clothing] Phyloxera, P:469 with picture Papua New Guinea (Way of life), Portugal (Agriculture and fishing), P:142 Grasse, François Joseph Paul (French admirall, G:304 Wine, W:273; (Harvesting the grapes) Grasshopper, G:304 with pictures

W:274

Glucose, G:215

Grape sugar

Grape phylloxera [insect] Grape (Diseases and pests), G:298 Phylloxera, P:469 with picture Grape pictures on, G:297; (Growing Grapes of Wrath, The book by Stein-American literature (Realist fiction), Calculus (Integral calculus), C:26 with Geometry (Analytic geometry), G:97 Strength of materials (Development of Grass, Glinter [German novelist], G:304 German literature (German literature

Alfalfa (Diseases and pests), A:248 Insect pictures on, A:235; (table) I:235, 1:248 Katydid, K:201 with picture Locust, L:356 with pictures Metamorphosis (Other examples), M:378 Grassland, G:306 with picture Animal (Animals of the grasslands), A:384 Biome, B:310 with map Flower, F:254 with pictures Llanos, L:342 Pampa, P:111 Pasture, P:213 Plant, P:547 picture on P:550 Prairie, P:737 with picture Savanna, S:114 Steppe, So:317 Grasstree (plant) Blackboy, B:379 Grassy sorghum Sorghum, So:45 Grateau, Marcel [French hairdresser] Hairdressing (The 1800's), H:13 Graticule Map (Geographic grids), M:187 Grating Diffraction (Uses of diffraction), D:171 Spectrometer, So:207 Grattan, Henry [Irish orator], G:307 Grau San Martín, Ramón Cuba (The Second Republic), Cl:481 Graupel [weather] Snow (How snow forms), 5:522 Grave Prehistoric people (Neanderthal), P:756 with picture Grave goods Sculpture (Mature Indian sculpture), S:205 Gravei, G:307 Gravelot, Hubert François (French art-Gainsborough, Thomas, G:8 Gravenhage, "s Hague, The, H:8 Graves, Abner Baseball (The Abner Doubleday Theory), B:131 Graves, Morris [American artist], G:307 with picture Graves, Robert [British author], G:307 Gravesham [England], G:308 Kent (Local government), K:219 Graves's disease (disorder), G:308 Gravestone Sculpture (American sculpture), S:214 Gravimeter Petroleum (Geophysical studies), P:341 Graving dock (shipping) Dry dock, D:326 Gravitation, G:2, G:308 with diagrams See also list of Related Articles Aeroplane (Gravity and lift), A:95 with diagram

Astronomy (Galileo and Newton),

A:698

Gray, Asa [American botanist], G:310

Communication (In the late 1800's),

Gray, Elisha [American inventor], G:310

Great Basin [desert, U.S.A.], G:314 with Black hole, B:375 CI:232 Boson, B:474 Gray, Robert [American explorer], United States (The Western Plateaus, Ear (The response to gravity), E:11 C:310 Basins, and Ranges), U:211 Earth (The earth's gravity), E:21 Gray, Simon (British dramatist), G:310 Great Bear Lake [Canada], G:314 with Falling bodies, Laws of, F:15 with dia-Gray, Thomas [British poet], G:310 with portrait gram map Grayling, G:311 with picture Lake (table), L:19 Hawking, Stephen William, H:86 Moon (Gravity), M:587; (The orbit of Fishing (Game fishing), F:185 **Great bindweed** Bindweed, **B:296** with picture the moon) M:590; (The moon and Gray's Inn tides) M:592 Inns of Court, 1:237 Great Britain, G:315 Newton, Sir Isaac, N:187 United Kingdom, Legal systems of the United Kingdom, U:42 Physics (Newton), P:475; (Einstein and (The legal profession), U:156 Great Britain (ship) Brunel, B:600 with picture relativity) P:477 Grays Thurrock (England) Thurrock, T:233 Ship (Development of the screw pro-Plate tectonics (Causes of plate movement), P:586 Graz [Austria], G:311 peller), \$:372 with picture Sun (The sun's mass), So:410 Austria (Ancestry and population), Great Buddha, Hall of the Tide (Tides follow the moon), T:240 A:859 Temple picture on, T:138 **Gravitational force** Grazing Great Buddha (sculpture) Gravitation diagram on, G:308 Pasture, P:213 Japan (Sculpture), J:45; picture on J:43 Gravitational red shift Grazing incidence Great Cattle Killing [1859] Relativity (General relativity theory), Astronomy (Other telescopes), A:694 Eastern Cape (History), E:46 R:193 Telescope (Ultraviolet telescopes), **Great Charter** Gravitational wave See Magna Carta Gravitation (Predictions of general rel-Grazing land Great-circle route, G:315 with map attivity), G:309 Conservation, Ci:296 with picture Geometry (Non-Euclidean geometry), Physics (Einstein and relativity), P:477 Soil (Soil conservation), So:22 G:97 Power (physics), P:731 Greane larmourl Globe, G:210 Armour (In early times), A:582 with Map (Azimuthal projections), M:169 Relativity (General relativity theory), picture Sphere, So:214 with diagram Water power (The mechanics of water Greasewood, G:311 Trigonometry (Spherical trigonomepower), W:91 try), T:402 with diagram Great Abaco (island) Gravitometer Bahamas (Land and climate), B:30 **Great cormorant** Great Admiral, The Pipeline (How pipelines work), P:517 Cormorant, Ci:356 Cabot, John, C:7 Great crested grebe Boson, B:475 Great Adventure, The iplay by Bennettl Grebe, G:330 with picture Gravity Great Dane, G:315 with picture Bennett, Arnold, B:239 See Gravitation **Great Age of European Discovery** Dog picture on, D:230 Space exploration (Overcoming grav-Great Depression, G:316 with pictures Exploration, E:420 ity), So:133; (Returning to the See also list of Related Articles Portugal, P:698 Australia, History of (Building a nation) earth) So:135; (Microgravity) Great Apes: A Study of Anthropoid A:815;820; A:820 with picture So:135 Life, The book by Yerkesl Gravity, Centre of, G:309 with dia-Canada, History of, C:103 Yerkes, Robert Mearns, Y:452 Capitalism (Changing attitudes toward gram Great Artesian Basin, G:311 with map **Gravity, Specific** Australia (Underground water), A:764 capitalism), C:146 Density, D:118 Car (The hard times of the 1930's), Northern Territory (Rivers, lakes, and Galileo (Early scientific interests), G:13 wells), N:281 C:172 Depression (Effects on society), D:125 Gem (Specific gravity), G:71 South Australia (The Central Desert Water (Liquid), W:82 Economics (New solutions for old Area), So:110; (Lakes, rivers and **Gravity dam** wells) So:110 problems), E:65 Film industry (Films in the 1930's), Dam (Masonry dams), D:12 Great auk **Gravity meter** Animal (Hunting), A:413 F:102 Prospecting (Today's prospectors), Auk, A:746 with picture Gay Nineties, G:66 Hoover, Herbert Clark (Hoover's ad-Bird picture on, B:356 Great Awakening [religion] ministration), H:274 Gravity's Rainbow (book by Pynchon) New Deal, N:109 with picture American literature (Fiction and other Colonial life in America (The church), New Zealand, History of (The depres prose), A:320 Ci:181 Whitefield, George, W:237 Gravure sion), N:174 Photoengraving and photolithography, Great barracuda Roaring Twenties, R:299 Roosevelt, Franklin Delano (Return to Barracuda, B:118 Printing (Printing by gravure), P:784 Fish picture on, F:161 politics), R:387 United Kingdom, History of the (Indus Stamp collecting (Printing), So:271 Great Barrier Reef, G:312 with pictures **Gravure press** and map trial affairs), U:151 United States, History of the (Depres Printing, P:785 Australia, A:764 with picture sion and a world in conflict, Gray, Robert [Australian writer] Cook, James, Ci:329 U:258; (Prosperity returns) U:260 Australia, Literature of (Modern short Coral (Barrier reefs), Cl:348 Washington, D.C. (History), W:59 stories), A:832 Queensland, Q:18

Great Barrier Reef Marine Park

G:313

Great Barrier Reef (Protecting the reef).

World War II (Economic problems)

W:379

Great Dissenter

Holmes, Oliver Wendell, Jr., H:248 Great Divide (geography), G:321 Continental divide, Ci:316 United States (The Rocky Mountains), U:210

Great Dividing Range [Australia], G:321 Australia (The Eastern Highlands),

A:761

Queensland (Eastern Basins and Ranges), Q:19 with map Rain shadow area, R:119 Great Dyke [Zimbabwe]

Zimbabwe (Land regions), Z:495; (Mining) Z:495

Great Eastern (ship)

Brunel (Isambard Kingdom Brunel), B:600 Cables (The Atlantic telegraph cable),

Ship (Ships of Iron) with picture, S:372

Telegraph (Across the Atlantic), T:103 Great Ennead (Egyptian mythology)

Mythology, M:754

Great Escape, The [book by Brickhill] Brickhill, Paul, B:559

Great Escarpment

Brazil (The Central and Southern Plateaus Region), B:540 Cape Province (Land), C:137 South Africa (The Plateau), So:62 Fransvaal, T:364

Great European Plain

Europe (Land regions), E:371 with picture

Great Exhibition of 1851 [London] Architecture (The Industrial Revolution), A:530 with picture Crystal Palace, Ct:470 with picture Shelter (The Industrial Revolution), S:352

World's fair, W:410

Great Expectations (book by Dickens) Dickens, Charles (The second phase), D:161

Great Exuma [island]

Bahamas (Land and climate), B:30 Great Famine [ireland], G:321 with pic-

Ireland, History of, 1:374; picture on 1376

Great Festival [Islam]

Feasts and festivals (in Islam), F:39 Islam (Pilgrimages to Mecca), 1:416 Great Fire of London

Disaster (Accidents), D:188

Fires of London, F:139 with picture Great Galaxy in Andromeda

Astronomy picture on, A:685 Great Gatsby, The [book by Fitzgerald]

American literature (The lost generation), A:317 Fitzgerald, F. Scott, F:196

Novel (New directions in the novel),

N:313 **Great Glen**

Scotland (The Highlands), S:163 Great God Brown, The Iplay by O'Neill O'Nelli, Eugene Gladstone, 0:452 Great-grandparent

Family (Family relationships), F:20

Great grey owl

Owl. 0:528 picture on 0:530 Great grey shrike

Shrike, 5:400 with picture Great grey slug

Slug, S:495 **Great Grimsby**

See Grimsby, Great

Great hammerhead Shark (Hammerhead shark), S:333

Great Himalaya

Jammu and Kashmir (Land features), 1:26

Great horned owl

Owl (Kinds of owls), O:529 with pic-

Great Hunger, The [poem by Kavanagh] Kavanagh, Patrick, K:203

Great Inaqua Island

Bahamas (Land and climate), B:30

Great Karoo [tableland]

Karoo, K:200

South Africa (The Cape Mountains Region), So:63

Western Cape (Land and climate), W:184

Great Lakes, G:321 with maps See also list of Related Articles Inland waterway, 1:235 Jolliet, Louis, J:138

Lamprey (Destructiveness), L:38 North America (Lakes), N:252

Ship (Dry bulk carriers), 5:379 Welland Ship Canal, W:145 with map

Great Lakes Plains Indiana, I:178

Great Lakes-Saint Lawrence Seaway See Saint Lawrence Seaway

Great Leap Forward

China, C:463

Mao Zedong (His leadership), M:173 **Great Maya**

Buddha (Birth and early life), B:613

Great Moguls, Kingdom of the See Mogul Empire

Great Mosque (Saudi Arabia) Islam picture on, I:414 Kaaba, K:178

Mecca, M:302 with picture Saudi Arabia picture on, S:107

Great Mother

Australian Aborigines (Gods and goddesses), A:838

Great Nebula of Orion

Astronomy picture on, A:688 Nebula picture on, N:65 Orion, 0:498

Great Northern War [1700-1721] Denmark (Wars with Sweden), D:116 Finland (Swedish rule), F:122

Great O'Neill, The (book by O'Faolain) O'Faolain, Sean, 0:414

Great Ouse [river] Cambridgeshire (The land), C:50 Great Plague, G:324

London (Expansion beyond the walls),

Great Plain, The [Hungary]

Hungary, H:378 with map

Great Plains [North America], G:324 with picture and map

Dust Bowl, D:357 with picture and тар Indian, American (Indians of the

Plains), 1:154 with pictures North America (Agriculture), N:256

with picture Texas (Land), T:167

United States, History of the (America moves west), U:246

United States (The Interior Plains), U:230

Westward movement, W:199

Great pompano

Pompano, P:664

Great Purge

Saint Petersburg (History), S:44 Union of Soviet Socialist Republics

(Stalin's policies), U:33 **Great Purple Hairstreak**

Butterfly picture on, B:682 **Great Pyramid**

Egypt, Ancient (History), E:130 Pyramids (The Pyramids of Giza), P:873 with pictures

Great Pyrenees, G:325 Dog picture on, D:230

Great Red Spot

Jupiter (Surface and atmosphere), J:171 with picture

Great Republic (ship) Ship (Clipper ships), S:371

Great Rift Valley, G:325

Ethiopia (Land and climate), E:339 Israel (The Rift Valley), I:433; picture and map on 1:435

lordan, J:143 Kenya (The highland), K:228 Malawi (Land), M:80

Plate tectonics (Divergent plate boundaries). P:584

Rwanda (Land), R:507

Tanzania (Land and climate), T:33 Uganda (Land), U:3

Great sallow

Pussy willow, P:869

Great Salt Lake [U.S.A.], G:325 with picture and map

Sculpture (Environmental sculpture), S:218

United States (The Western Plateaus, Basins, and Ranges), U:211

Utah (Land), U:286 Great Salt Lake Desert [U.S.A.], G:326 United States (The Western Plateaus,

Basins, and Ranges), U:211

Great Sandy Desert [Australia], G:326

Great Sandy Island Fraser Island, F:427

Great Schism

Church and state (The Middle Ages), C:501 lohn XXIII [antipope], J:128

Pope (The troubles of the papacy), P:677

Roman Catholic Church, R:341 Sigismund, S:414

Norfolk (Places to visit), N:241

Great Yarmouth [England], G:330 with

picture the Greece, Ancient article Urban VI, U:277 Alphabet (The Greeks), A:282 with pin Norfolk (Places to visit), N:241 Great Seal, G:326 with picture E Pluribus Unum, E:2 **Great Zimbabwe** tures Great Silk Road [Chinese history] Zimbabwe (History), Z:496 Anatomy, A:350 Aqueduct (Ancient aqueducts), A:485 Han dynasty, H:37 with map Greater Antilles (islands, West Indies) Armour (in early times), A:582 with Trade route (Early trade routes), T:327 West Indies, W:163; map on W:164 picture Great Slave Lake [Canada], G:326 with **Greater Buenos Aires** Army (Ancient armies), A:592 with ple Argentina (City life), A:555 Great Smoky Mountains [U.S.A.], G:327 Greater burdock ture Atomism, A:731 with picture Burdock, B:649 Bed (History), B:179 **Great Sphinx Greater London** Bell (History), B:227 Egypt, E:100 London, L:365; map on L:370 Biography (Early biographies), B:301 Egypt, Ancient (Painting and sculp-**Greater Moravian Empire** ture), E:126 Czech Republic (Early days), Ci:524 Book (Early books), 8:455 Sphinx (Egyptian sphinxes), So:215 Czechoslovakia (Early history), Ci:523 Boxing (Ancient times), B:498 Greater prairie chicken Butterfly, B:680 with picture **Great Spirit** Prairie chicken, P:738 Citizenship (History), Ci:16 Indian, American (Beliefs), I:148 Classical music (History), Cl:58 Greater scaup [bird] Wovoka, W:412 Duck picture on, D:339 Clothing (The Greeks), Cl:99 with pic-**Great spotted cuckoo Greater Sunda Islands** tures Cuckoo, Ci:486 Indonesia (The Islands), 1:187 Communication (During ancient Great spotted kiwi Greatest: My Own Story, The book by times), Cl:229 Kiwi, K:294 Cremation, Cl:421 Ali] Great St. Bernard [mountain pass] Doll (Ancient times), D:244; picture on Ali, Muhammad, A:268 Alps (Alpine travel), A:286; diagram on Greatest common divisor imathemat-Dolphin (Dolphins and people), D:253 ics Drug (Drugs in ancient times), D:317 Saint Bernard Passes, S:30 with pic-Factor, F:4 ture Greatest common factor [mathemat-Education, E:89 Europe (History), E:384; (Arts) E:368 **Great St. Bernard Tunnel** icsl Exploration (The ancient Greeks), Extl Switzerland (Transportation), So:499 Factor, F:4 Great tiger moth Greatest Show on Earth, The [circus] Fable, F:2 Moth picture on, M:642 Food (Ancient times), F:301 Barnum, P. T., B:114 Great tit Greatest Shown on Earth, The [film] Fraction (History), F:389 Tit. T:264 De Mille, Cecil Blount, D:101 Freedom (History), F:435 Furniture, F:494 with pictures Great Trek [South African history], Film industry (Best picture), F:96 Greaves, Captain [Scots-Irish pirate], G:327 with map and pictures Geometric style, G:94 Boers, B:419 G:330 Golden Age, G:239 Government (Ancient times), G:275 Kruger, Paulus, K:335 Grebe, G:330 with picture South Africa, So:79 with pictures Bird picture on, B:346 (In the water) Gymnasium, G:440 Hairdressing (Ancient times), H:12 WIII South Africa, History of (White occu-B:343; picture on B:346 pation of the interior), So:79; pic-Gréboun, Mount picture Heart (Early beliefs about the heart) ture on So:81 See Mount Gréboun **Great Valley** Grecian Archipelago (Greek Islands) H:111 California (Land), C:38 Herodotus, H:180 Aegean Sea, A:68 with map History (Ancient times), H:225 Great vehicle [religion] Greco, El [Greek painter], G:331 with Homosexuality (Attitudes towards ho Buddhism (Mahayana Buddhism), portrait and picture Art and the arts picture on, A:601 B:618 mosexuality), H:258 Invention (Ancient Greece), 1:314 **Great vessels** Greece (Arts), G:336 Heart (Blood vessels), H:102 Mannerism, M:163 with picture Isthmian games, 1:443 Jewellery (Early jewellery), J:109 Great Victoria Desert, G:329 Painting, P:61 with picture Law (The influence of ancient Greece) Great Wall of China, G:329 with pic-Resurrection picture on, R:243 Greco, José (Spanish dancer), G:331 1:113 Asia (The Huang He and Yangtze val-Greece, G:332 with pictures and maps Library (Greece), L:230 Map (Ancient maps), M:190 leys), A:657 See also Cyprus; list of Related Arti-Mask (Theatrical masks), M:243 China (The early empire), C:459; pic-Mathematics (The Greeks and Ro ture on C:458 Acropolls, A:26 with pictures Shi Huangdi, S:358 mans), M:257 Athens, A:705 with pictures and map Medicine (Greece and Rome), M:314 World, History of the, W:341 with pic-Aviation (Aircraft nationality marks), A:881 with picture Mental illness (Early attitudes), M355 Great Western [ship] Canal, C:112 Brunel, Isambard Kingdom, B:600 Money picture on, M:549 Europe (table), E:359; picture on E:369 Novel (Ancient Greek and Roman nur Ship (Ships of iron), S:372 Flag picture on, F:208 **Great white egret** Otto I (1815-1867), O:519 ratives), N:311 Numeration systems (The Greek nu Egret, E:99 with picture Rome, Ancient (History), R:377 meral system), N:349 Great white shark Theatre, T:203 Painting (Greek painting), P:46 World War II (table: the Allies), W:381 Animal picture on, A:379 Park (History), P:186 Great Witchingham [England] Greece, Ancient, G:347 with pictures

and maps

See also list of Related Articles with

Parthenon, P:204 with picture

Peace (Ancient Greece and Rome)

Douglas, Lloyd Cassel, D:272

Fertilizer (Organic fertilizers), F:60

Green Mountains (book by O'Reilly)

Green Party [political party], G:359

Environmental pollution (Agriculture),

Germany (Politics), G:118; (West Ger-

Agriculture (Improved plant and live-

Food supply (Making farmland more

wheat), W:225 with picture

stock breeding), A:175

Borlaug, Norman Ernest, B:469

Wheat (Breeding new varieties of

productive), F:313

Bean (Kinds of beans), B:166

Air (Gases of the air), A:183

Animal (Pollution), A:412

Green manure crop

Alfalfa, A:246

Legume, L:157

Manure, M:170

Cicada, Ci:1

Green moray eel

Rye (Uses), R:509

Green Monday linsect!

Fish picture on, F:163

O'Reilly, Bernard, 0:493

many) G:138

Green Revolution

Green shell bean

Green swordtail

Pedagogy, P:241 Phoenicia, P:428 with map Physical education (History), P:470 Pottery (Early pottery), P:724; picture Ring picture on, R:278 Rome, Ancient (Expansion overseas), Science (Ancient Greece), S:143 Screw (History), S:184 Sculpture (As part of architecture), Shelter (Ancient times), S:351 Ship (Phoenician and Greek ships), Slavery, S:480 Solar energy (History), So:25 Sphinx (The Greek sphinx), So:216 with Textile (Prehistoric and ancient times), Thebas, T:210 Transportation, T:351 Women's movement (in ancient World, History of the, W:336 with pic-Zoo (History), Z:505 Greek alphabet Alphabet (The Greeks), A:282 with pic-Greek language, G:356 Greek Anthology, The poetry by Mas-Masters, Edgar Lee, M:248 Greek architecture Architecture, A:521 with picture Greek Church See Eastern Orthodox Churches; Greek cross Architecture (Later Renaissance archi-Cross, Cl:454 with picture Greek drama Drama (Greek drama), D:286 with pic-Greek fire (chemistry), G:355 Greek games Isthmian Games, 1:443 Nemean Games, N:73 Greek geometry Geometry, G:98 Greek language, G:356 Alphabet (The Greeks), A:282 with pic-Language (Indo-European), L:52 with map Linguistics (Comparative and historical research), L:294 Greek literature, G:357 See also list of Related Articles Drama (Greek drama), D:286 with pic-

tures

Romance, R:347

Greek Macedonia

Macedonia, M:8 Greek mythology Giant, G:152 Mythology, M:751 with pictures **Greek names** Name, N:9 Greek numerals Numeration systems (The Greek numeral system), N:349 **Greek Orthodox Church** Bible (Books of the Old Testament), Eastern Orthodox Churches, E:47 Greece (Religion), G:336 Greek Passion, The Ipoem by Kazantza-Kazantzakis, Nikos, K:207 Greek Revival Architecture (The Greek Revival), Greek Slave iscuipture by Powers Powers, Hiram, P:732 **Greek tortoise** Tortoise, T:307 **Greek tragedy** Drama (Greek drama), D:286 Europe picture on, E:369 Tragedy, T:335 Greek War of Independence Greece (Independence), G:342 Green (colour) Colour, Ci:191; (Mixing colorants) Cb:194 Green (sports) Bowls, B:492 Golf (The course), G:245 Green, Charles (English balloonist) Green, Henry [British author], G:359 Green, J. R. British historian, G:359 Green algae Algae, A:250 with picture Seaweed (Kinds), S:232 Green almond Pistachio nut, P:522 Green aracari Toucan picture on, T:309 Green belt, G:359 Hertsmere, H:185 with map **Green Corn Dance** prophets), I:148 Green Henry (book by Keller) Keller, Gottfried, K:211

Green jay

Jay, J:72

Green Light (nove) by Douglas)

Fish picture on, F:165 Green tea Tea, T:79 Green tree ant, G:359 Green woodpecker Bird picture on, B:322 Woodpecker (Kinds), W:306 with picture Greenaway, Kate [British illustrator], Balloon (The growth of ballooning), G:359 with portrait Valentine's Day (Commercial valentines), V:301 with picture Greenbottle Blow fly, **B:404** Fly, F:277 Greenbrier Smilax picture on, S:497 Greene, Graham [British author], G:359 Novel (After World War II), N:314 Greene, Robert [English writer], G:360 Drama (Elizabethan playwrights), London (Postwar developments), L:374 Shakespeare, William (First recogni-Moscow (Layout of Moscow), M:624 tion), S:301 Greenfly See Aphid Indian, American (Shamans, priests and Greenglass, David iAmerican public figure) Rosenberg, Julius and Ethel, R:401 Green Hills of Africa Iwork by Heming-Greengrocer England (Way of life), E:266 wav] Greengrocer (insect) Hemingway, Ernest, H:148 Cicada, Ci:1 with picture Green iguana Greenhood [plant], G:360 Iguana, 1:29 with picture Greenhouse, G:360 with picture Green Island Floriculture, F:233 Great Barrier Reef (Physical features), Industry picture on, 1:220 G:312; (Places to visit) G:314 Greenhouse effect

Greer, Germaine (Australian public fig-

Australia, History of (Society), A:824

ure]. G:365

Biodiversity, B:299 Greeting cards, G:365 Grenadilla Climate (The changing climate), Ci:81 Valentine's Day, V:301 with pictures Passion flower, P:210 Grenadines (islands), G:370 Energy supply (Environmental pollu-Greevy, Bernadette [Irish contralto], tion), E:251 G:365 with portrait Grenada, G:367 Environmental pollution (Air pollu-**Gregg shorthand** Saint Vincent and the Grenadines, tion), E:303 Shorthand, S:394 Remote sensing, R:213 Gregg, John Robert American inven-Windward Islands, W:272 Grendel Sun diagram on, So:411 torl, G:365 Greenland [island], G:361 with pictures Shorthand (Gregg shorthand), G:394 Beowulf, B:241 Grenfell, Sir Wilfred Thomason Britand map Gregor, William (English scientist) See also list of Related Articles with Titanium (Discovery and manufacture), ish medical missionary), G:370 the Greenland article T:265 Labrador, L:5 Godtháb, G:226 Gregorian calendar, G:365 Grenoble [France], G:370 Iceberg (North Atlantic icebergs), I:17 Calendar, C:34, C:36 Grenville, Kate [Australian writer] Peary, Robert Edwin (Early explora-Julian calendar, £161 Australia, Literature of (Modern novtions), P:237 Month, M:580 els), A:832 Whale (The future of whales), W:213 Gregorian chant [music] Grenville, George British prime minis Greenland Journey book by Kentl Classical music (The Middle Ages), terl, G:371 Kent, Rockwell, K:222 American Revolution (The Sugar Act, Greenland whale Gregorius poem by Hartmann von Auel A:323 Whale (Bowhead whales), W:206 Hartmann von Aue, H:71 Grenville, Sir Richard (English naval Greenlanders' Saga, The Gregory I, Saint [pope], G:365 commanderl, G:371 Ericson, Leif, E:318 Christianity (The Middle Ages), C:485 Grenville, William (British prime minis Greenock Classical music (The Middle Ages), terl. G:371 Inverciyde, I:322 Ci:59 Gresham, Sir Thomas English mer Greenough, Horatio [American sculp-Pope (The early Middle Ages), P:676 chant), G:371 Gresham's law [economics], G:371 with picture Sculpture (American sculpture), S:214 Gregory IX [popel, G:366 Greta Garbo, 1928 iphotograph by Stelwith picture Inquisition, 1:239 chen Greenpeace [organization], G:363 Gregory VII, Saint [pope], G:365 Steichen, Edward, So:311 with picture Conservation (Europe), Cl:302 Gretna Green [Scotland], G:371 Christianity (The Middle Ages), C:485 Environmental pollution (Agriculture), Dumfries and Galloway Region pictuit Germany (The Holy Roman Empire), G:131 on, D:345 Rainbow Warrior, R:120 Henry IV (king of Germany), H:153 Grevillea, G:371 Greensand mari Grey, Beryl (British ballet dancer), 637 Pope (The peak of papal power), P:677 Marl, M:214 Grey, Earl [British statesman], G:371 Gregory X [pope], G:366 Grey, Edward (British diplomati, G:372 Greenstick fracture Pope (The election of a pope), P:675 Fracture, F:390 with diagram Grey, Lady Jane (English public figure) Gregory XIII [pope], G:366 Greenville, Treaty of Calendar (The Calendar today), C:34; G:372 Indian wars picture on, 1:175 (The Gregorian calendar) C:36 Edward VI. E:94 Westward movement (Indian con-Julian calendar, J:161 Mary I, M:236 flicts). W:198 Quirinal Palace, 0:30 Ridley, Nicholas, R:273 Greenway, Francis (Australian archi-Tower of London, T:315 Gregory, Augustus iAustralian ex-Grey, Sir George (British colonial ger tectl, G:363 with portrait plorerl, G:366 Greenwich (London), G:364 Gregory, Dick [American entertainer], ernor], G:372 Greenwich Civil Time (GCT) Australia, Literature of (Early prose), G:366 Time (Worldwide time zones), T:257 Gregory, Hanson [American sea cap-A:830 Greenwich Hospital Grey, Stephen [English scientist] tain Wren, Sir Christopher, W:414 with Doughnut, D:272 Electricity (History), E:171 Grey, Zane [American author], G:372 picture Gregory, Jack [Australian cricketerl, Greenwich Mean Time (GMT) G:366 Grey-backed white-eye Greenwich Meridian, G:364 Gregory, Lady lirish playwrightl, G:366 Bird picture on, B:334 Navigation (Celestial navigation), N:52 Ireland (Arts), 1:356 **Grey butcherbird** Time (Worldwide time zones), T:257 Irish literature (The Irish literary revi-Bird picture on, B:332 Greenwich Meridian, G:364 val), 1:383 **Grey fox** International Date Line, 1:289 Fox, F:379; picture on F:378 Yeats, William Butler, Y:444 Longitude (Longitude and location). Grey friars L:381 with diagram Textile (Finishing the fabric), T:173 Friars, F:458 Map (Geographic grids), M:187 with Gremlin (superstition), G:366 **Grey ghost** diagram Grenada Weimaraner, W:141 Meridian, M:364 Barbados (History), B:103 **Grey goods** Textile (Finishing the fabric), **T:173** Time (Worldwide time zones), T:257 CARICOM, C:199 Greenwich Observatory, Royal [Lon-Dominica (History), D:257 Grey heron don], G:365 Flag picture on, F:203 Heron picture on, H:181 Greenwich Meridian, G:364 Saint George's, S:33 Grey ironbark [tree] Eucalypts picture on, E:350 Observatory (History), 0:382 West Indies (History), W:172; Grena-

dines, G:370

Windward Islands, W:272

Grenade (bomb), G:370 with picture

Grey jay

Jay, J:72

Grey kangaroo

Kangaroo, K:186 with pictures Grey King, The [book by Cooper] Cooper, Susan, Cl:336

Grey matter

Brain (Brain cells), B:512 Nervous system (Parts of a neuron),

N:82

Grey nurse shark, G:372 Grey Owl (British author), G:372 Grey parrot [bird]

Parrot (Kinds of parrots), P:200

Grey phalarope Bird picture on, B:320

Phalarope, P:357 Grey Range |Australial, G:372 **Grey rat**

Rat (The body of a rat), R:141

Grey squirrel

Animal picture on, A:386

Grey wagtail Wagtail, W:5 **Grey whale**

> Animal (Filtering mechanisms), A:399 with picture

Whale, W:206 Grey wolf

Wildlife conservation (Threatened species), W:251

Wolf, W:285

Greyhound, G:373

Dog picture on, D:228

Greyhound racing, G:373 with picture Italian greyhound, 1:443 with picture Greyhound racing, G:373 with picture

Greylag goose Goose, G:254

Battery (Lead-acid storage batteries), 8/155

Vacuum tube (How a vacuum tube works), V:297

Grid [map], G:373 with diagram Map (Geographic grids), M:187 with diagrams

Grid sheet

Printing (Paste-up), P:782

Gridiron pendulum

Pendulum (Clock pendulums), P:256 with picture

Grieg, Edvard [Norwegian composer], G:374 with portrait

Grainger, Percy Aldridge, G:287

Grierson, John (British film director), G:375 with picture

Grievance procedure

See Industrial relations (The settlement of disputes)

Grieve, Christopher Murray (Scottish writer MacDiarmid, Hugh, M:6

Scottish literature (After 1900), S:177 Griffin, Walter Burley (American archi-

tectl, G:375 with portrait Australia, Art and architecture of pic-

ture on, A:788 Canberra (History), C:113

Criffin (Greek mythology), G:375 Criffith, Arthur Irish politiciani, G:375 with portrait

Ireland, History of (Sinn Féin), 1:376 Sinn Féin, S:454

Griffith, D. W. [American film director], G:375

Film industry, F:99 with picture

Griffith, Sir Samuel Walker, G:376 with portrait Federation of Australia (Growing na-

tional awareness), F:45

Griffiths, John W. [American designer] Clipper ship, Ci:84

Griffo, Young [Australian boxer] Boxing (Boxing in Australia and New Zealand), B:498

Griffon

Wirehaired pointing griffon, W:279

Griffon Belge

Brussels griffon, B:602

Griffon Bruxellois

Brussels griffon, B:602

Grilling

Cooking, Ch335

Griliparzer, Franz (Austrian dramatist) Austria (Literature), A:861 German literature (Romanticism),

C:109

Grimaldi family

Monaco (History), M:540

Grimaldi, Joseph [British clown], G:376 with picture

Clown, Ci:115

Grimaldi, Rainier Louis Henri Maxence Bertrand de

Kelly, Grace, K:213 Rainier III, R:120 with portrait

Grimes, Martha (American author), G:376

Grimes Graves [England] Norfolk (Places to visit), N:241

Grimes, Charies (Australian settler) Port Phillip Bay, P:694

Grimké, Angelina

Abolition movement (In the United States), A:13

Grimké, Sarah M. [American antislavery leader] Feminism, F:49

Grimké, Sarah M. [American antislavery leaderl

Abolition movement, A:13

Grimm [German scholars], G:376 with portraits

Fairy (Fairies in literature), F:10 Folklore (Origins of folklore), F:287 Grimm's Fairy Tales, G:377

Language (The science of language), L:54

Mouse Tower, M:677

Romanticism (Romanticism in literature), R:360

Storytelling (The 1800's), So:340 Grimm, Jakob Ludwig (German

scholarl, G:376 with picture Linguistics (Comparative and historical research), L:294

Grimm, Wilhelm Karl [German scholarl, G:376 with picture Linguistics (Comparative and historitcal research), L:294

Grimmelshausen, Hans Jakob Christoffel von [German author], G:377 German literature (Baroque literature),

G:108 Grimm's Fairy Tales, G:377 with pictures

Fairies (Fairies in literature), F:11 Folklore (Origins of folklore), F:287 Grimm [family], G:376 Literature for children, L:320

Romanticism (Romanticism in literature), R:360

Storytelling (The 1800's), So:340

Grimond, lo

See Grimond, Lord

Grimond, Lord [British politican], G:377 Grimsby, Great [England], G:378 with picture

Grinding and polishing, G:378 with pictures

Machine tool (Abrasive processes), M:17

Paint (How paint is made), P:24 Watermills, W:100

Grindstone

Whetstone, W:227

Crint

Guinea (People), G:413

Grippe See Influenza

Griqua [people]

Free State (History), F:432

Grigualand [South African history] Northern Cape (History), N:268

Grigualand West [South Africa]

Free State (History), F:432 Gris, Juan [Spanish-born painter], G:379

Collage, Ci:163 Cubism, Ci:484 with picture Modigliani, Amedeo portrait on,

M:526 Painting (Cubism), P:79; picture on

P:81

Griseofulvin idrugi

Athelete's foot, A:709

Grisi, Carlotta (Italian ballerina) Ballet (Romantic ballet), **B:56**

Grison, G:379 with picture

Grissom, Virgil I. [American astronaut] Space exploration (Vostok and Mercury: The first human beings in space), So:145 with picture; (Voskhod and Gemini: The first multiperson space flights) So:148

Grizzly bear, G:380 with picture Animal (Destruction of habitat), A:412

Bear (Big brown bears), B:169 with picture and diagram

GRO [satellite]

Satellite, Artificial (Important satellites), 5:96

Groat [botany]

Buckwheat, B:611 Oatmeal, 0:376

Oats (The oat plant), O:377 Groat [money], G:380

Grodno

Belarus (Government), B:208 Grofé, Ferd [American composer],

leader

H:383

Hungary (Recent developments),

Grotius, Hugo [Dutch lawyer], G:384 **Ground** wave Radio (Kinds of broadcast waves), R/1 Grog Shop, The [book by Zola] International law (In early days), Zola, Émile, Z:501 **Ground zero** Groin larchitecture! Peace (From the 1400's to the 1700's). Fallout diagram on, F:18 Vault. V:320 P-224 Nuclear weapon (Blast wave), N:338 Gromyko, Andrei Andreyevich [Rus-Political science (Secularism), P:654 Groundnut sian political leader], G:381 Grotowski, Jerzy [Polish director] Peanut, P:229 Grooming Drama (Experimental theatre), D:300 Groundsel, G:385 Cat. C:252 Groundwork: Before the Warlpoom Grouch, The [play by Menander] Dog, D:237 with picture Drama (New Comedy), D:287 by Duncan) Horse (Care of a horse), H:298 with **Ground** [art] Duncan, Robert, D:348 Painting (Painting grounds), P:40 pictures Group [mathematics] Groote Eylandt (Island), G:381 Ground (construction) Mathematics (Philosophies of mathe-Northern Territory (Location and size). Plaster (Plastering), P:576 matics in the 1900's), M:260 N:280 **Ground** [electricity] Group (sociology) Gropius, Walter [German architect], Earth, E:15 Animal (Group care), A:408 G:381 with picture **Ground beetle** with picture; (Group living) Architecture (Early modern architec-Beetle, B:198 ture in Europe), A:532; (Walter Ground hemlock [plant] Animal (Kinds of animals), A:380 Gropius) A:535 with picture Yew, Y:452 Collective behaviour, Cl:164 Bauhaus, B:159 **Ground hog** Community, Cl:245 **Gros point** Woodchuck, W:303 with picture Dinosaur (Group life), D:181 Needlepoint, N:67 Ground iguana Group dynamics, G:385 Grosbeak, G:381 with picture Iguana, 1:30 Mammal (Group life), M:133 Bird (Bills), B:349 with picture **Ground Ivy** Primate (Social characteristics), P:778 Grose, Francis (Australian settler), Ivy, 1:478 Sociology, So:11 C:382 **Ground out** Group A beta-haemolytic streptocor Australia, History of (The New South Baseball, B:129 cus [bacteria] Wales Corps), A:800 **Ground parrot** Erysipelas, E:323 Groseilliers, Sleur des [French trader] Parrot (Kinds of parrots), P:200 Pharyngitis, P:359 Hudson's Bay Company (Beginnings), Ground provisions [food] Scarlet fever, S:123 H:341 Dominica (Food), D:256 Streptococcus, So:354 Gross domestic product (GDP), G:382 Ground sloth [extinct animal], G:384 Group Areas Act |South African history Economics table on, E:65 with picture South Africa (People), So:59 National debt diagram on, N:35 Prehistoric animal picture on, **Group conflict** See also under individual countries P:747 Human relations, H:360 Gross income **Ground speed** Group dynamics, G:385 Income, J:52 Aeroplane (Measuring flying speed), Clothing (Protection), Ci:90 with plo Gross national product (GNP) Developing country, D:144 Ground squirrel, G:384 with pictures Human relations, H:360 Economics, E:59; table on E:65 Squirrel, So:254 Morale, M:601 Gross domestic product (Interpreting Woodchuck, W:303 with picture Group life insurance plan the GDP), G:383 Insurance (Main kinds of life Insur-Ground state iphysics] input-output analysis, 1:239 Atom (Electron energy levels), A:727 ance), I:272 National income (Determining national Group of Seven | Canadian artists, Laser (The nature of atoms), L:72 with income), N:35 diagram G:385 with pictures Gross tonnage [shipping] **Ground station** Jackson, Alexander Young, J.5 Merchant navy, M:359 Group Portrait with Lady book by Satellite, Artificial (Communications Ship (table), \$:363 satellite), S:97 Bölli Gross, David J. [American physicist] Ground stroke Böll, Heinrich, B:431 German literature (German literature Gluon, G:216 Tennis (The ball in play), T:144 Gross, Haus (Austrian judge) Ground water, G:385 today), G:110 Police laboratory (History), P:645 Conservation, Ci:295 **Group therapy** Mental illness (Special techniques), Gross, Robert E. Environmental pollution (Water pollu-Heart (Development of heart surgery), tion). E:304 Psychiatry (Psychotherapy), P:826 Forest (Environmental value), F:345 Grosseteste, Robert [English religious Hazardous wastes (Effects of hazard-Psychotherapy, P:832 Speech therapy (Treatment), So:208 leader ous wastes), H:92 Physics (The Middle Ages), P:474 Hydrology, H:406 Grouper, G:386 with picture Fish (Fish of coral reefs: picture), FIE Grossglockner (mountain, Austria) Irrigation, 1:406 Austria (Land and climate), A:862 Jewfish, J:111 with picture River (The source of a river), R:289 Grossmith, George [British entertainer]. Spring [water source], So:240 Grouse, G:386 with pictures Water pollution, W:88 Bird picture on, B:320 Grosz, George [German painter], G:383 Water (Precipitation), W:72 with Prairie chicken, P:738 with picture diagram; (Sources of supply) Quail, Q:4 Ruffed grouse, R:442 with picture Grósz, Károly [Hungarian political W:76

Well (Water wells), W:144

Water, (Source of supply),, W:76

Ground-water reservoir

Dam (Embankment dam), D:13

Grove, Sir George [British writer],

G:387 Grover Cleveland: A Study in Courage [book by Nevins] Nevins, Allan, N:106 Grove's Dictionary of Music and Musicians [book by Grove] Grove, Sir George, G:387 Groves, Sir Charles [British conductor]. G:387 Growth [biology], G:387 See also list of Related Articles Hormone (Growth and sex hormones), H:278 Life, L:245 Plant (How plants grow), P:560 with diagrams Tropism, T:417 Growth (work by Tarkington) Tarkington, Booth, T:45 Growth fund [finance] Unit trust. U:38 Growth hormone Dwarf. D:360 Glant, G:151 Growth (Factors affecting human growth), G:388 Hormone, H:278 Growth-hormone-releasing hormone (GHRH) Dwarf, D:360 Growth of the Soil, The (book by Ham-Hamsun, Knut, H:37 Growth regulator Hormone (Plant hormones), H:279 Grub, G:388 Beetle (The larva), B:197 Insect (Growth and development), 1:254 Larva, L:67 Potato (Diseases and insect pests), Wasp (Life cycle), W:64 Gruentzig, Andreas [Swiss doctor] Heart (Progress in treatment and prevention), H:113 Gruffydd, W. J. [Welsh writer] Welsh literature (Later literature), Grünewald, Matthlas (German painter), G:388 with picture Grunlon, G:389 with picture Biological clock (Other rhythms), B:303 Grunitzky, Nicolas (Togolese political leader) Togo (History), T:276 Grunt, G:389 with picture Fish picture on, F:163 Grypaetus vulture Animal (Breeding in captivity), A:413 Gryphius, Andreas [German poet] German literature (Baroque literature), Gu Kaizhi [Chinese painter], G:389 Gua, Pierre du [French explorer]

ment), N:112

New France (Exploration and settle-Guadalajara [city, Mexico], G:389

Guadalcanal Island, G:390 Flag picture on, F:203 Latin America (Border disputes), 1:92 Guadalquivir Basin World War II (table: the Allies), W:381 Spain, So:176 Guatemala City, G:402 Guadalupe Day, G:390 Guatemala, G:396 Feasts and festivals picture on, F:40 Guava [fruit], G:402 with picture Mexico (Holidays), M:406 Guayaquii (Ecuador), G:402 Guadalupe Hidalgo, Treaty of, G:390 Ecuador, E:67 Westward movement (The Oregon Guayule [plant], G:402 Trail). W:198 Guba [aeroplane] Guadeloupe [islands], G:390 with maps Taylor, Sir Gordon, T:73 Guam [island], G:391 with pictures and **Guden River** Denmark (Lakes and rivers), D:114 Mariana Islands, M:204 with picture Guelder-rose, G:402 with picture World War II (Island hopping in the Guelphs and Ghibellines, G:402 Central Pacific), W:398 Italy (Rise of the city-states), 1:467 Guan [bird], G:392 Guenevere, Queen llegendary figure Mandarin, M:149 Arthur, King, A:609 Guan Di [Chinese general] Lancelot, Sir, L:43 Taoism (Taoism as a religion), T:37 Round Table (Origin), R:411; (The de-Guanabara Bay [Brazil] cline of the Round Table) R:411 South America picture on, So:88 Guenon [animal], G:403 with picture Guanaco (animal), G:392 Monkey diagram on, M:564; picture Guangzhou (Chinal, G:392 on M:565 Treaty port, T:370 Guérin, Camille [French researcher] Guanine BCG, B:164 Cell (DNA-the wondrous ladder), Guernica [painting by Picasso] C:300 Picasso, Pablo (Later career), P:485 Heredity (The structure of DNA), H:170 with picture Nucleic acid, N:341 Guernsey (cattle) Guano, G:393 with picture Cattle, C:274 with picture Bat, B:145 Dairying (Dairy cattle), D:6 Bird (As a source of food and raw ma-Guernsey [Channel Islands], G:403 terials), B:318 Channel Islands, C:343 Cormorant, Cl:356 Guerrilla warfare, G:403 with picture Peru (Mining), P:314 Palestine Liberation Organization, Guantánamo [Cuba], G:393 P:104 Guar (plant), G:394 World War II (Resistance groups), Guarantee, G:394 W:403 Guard cell Guerrillas (play by Hochhuth) Leaf (Obtaining the raw materials), Hochhuth, Rolf, H:237 L:130 with diagram Guest, Edgar Albert [American poet], Guard of Honour [book by Cozzens] G:405 Cozzens, James Gould, Cl:412 Guest for the Night, A [book by Agnon] Guardia, General Tomás (Costa Rican Agnon, Shmuel Yosef, A:159 political leader Costa Rica (Revolutions and reforms), **Guest worker** Berlin (Ethnic groups and religion), C3:378 B:249 Guardian [law], G:394 Guevara, Ché [Cuban political leader], Guardian Angel, The [book by Holmes] G:405 with portrait Holmes, Oliver Wendell, H:248 Cuba (Recent developments), Cl:483 **Guardian figure** Guerrilla warfare (History), G:404 with Sculpture (Personal sculpture), S:203 picture with picture Guggenheim Museum, G:405 **Guardian** spirit Guggenhelm, Meyer (Swiss-born in-Indian, American (The guardian spirit), dustrialistl, G:405 Guiana [region, South America], G:405 Guards [British Army], G:394 with pic-Guiana Highlands (region) ture South America (The Eastern High-**Guards Division** lands), So:92 with picture Guards, G:395 with picture Guiccioli, Countess Teresa imistress Guarini, Guarino (Italian architect) of Byronl Architecture (Baroque architecture), Byron, Lord (Byron's life), B:695 **Guidance** system Guarneri (Italian violin-makers), G:395 Space exploration (Navigation, guid-Guatemala, G:396 with pictures and ance, and control), So:138 **Guide Association** See also list of Related Articles Girl Guides and Girl Scouts, G:167 Aviation (Aircraft nationality marks), Guide doa A.B81

330 Blindness (Aids for blind people). B:389 Dog. Guide. D:240 Guide for the Perplexed, The book by Maimonidesl Hebrew language and literature (Medieval works), H:129 Maimonides, Moses, M:69 Cuided bomb Bomb, B:435 with picture Guided missile, G:406 Guided missile, G:406 with pictures See also list of Related Articles Ammunition (Self-propelled ammunition), A:336 with picture Jet propulsion (Development of jet propulsion), J:106 Laser (Guiding), L:71 Guided missile cruiser Cruiser, Cl:462 Warship (Cruisers), W:43 picture on Guided problem-solving Education (Methods of teaching), E:89 Guides Girl Guides and Girl Scouts, G:167 Guldeway Magnetic levitation train, M:52 Guido d'Arezzo Classical music picture on, Ch:59 Guildford [England], G:411 Surrey, So:443 with picture Guilds (English history), G:411 See also list of Related Articles City (Economy), Cl:29 Clothing, Ci:101 Education (Christian education in the Middle Ages), E:92 Industrial revolution (Life before the Industrial Revolution), [:21] Middle Ages (Medleval towns), M:450 Mystery play, M:750 Textile (During the Middle Ages), T:175 Trade association, T:327 Woodworking, W:306 Gulids [Swiss history] Switzerland (Independence and expansion), So:500 Guillaume de Lorris (French poet) French literature (Romances), F:445 Guillemot, G:412 with picture Auk, A:746 Guiliotin, Joseph Ignace (French doctor Guillotine, G:412 Gulliotine, G:412 with picture Guinea [country, Africa], G:413 with pictures and map Conakry, Cl:272 Flag picture on, F:200 Guinea imoneyl, G:416

Guinea (region, Africa), G:413

Flag picture on, F:200

Guinea [region], G:413

map

Bissau, B:371

Guinea-Bissau, G:416 with pictures and

Portugal (Empire and wealth), P:705

with map Guinea pig, G:418 with picture Cavv. C:287 Guineafowl, G:418 with picture Bird picture on, B:327 Guinness, Sir Alec [English actor], G:419 with portrait Film industry (Best performance by an actor), F:96 Guinness, Sir Benjamin Lee (Irish brewerl, G:418 Guinness, Edward Cecil IIrish philanthropistl. G:419 Guinness, Walter Edward Irish statesmanl. G:419 **Guiscard**, Robert Norman, N:245 Guise [French history] Francis II [1544-1560], F:420 Huguenots, H:344 Gultar (stringed instrument), G:419 Jazz, J:74 Guitar (sculpture by Picasso) Sculpture (Modern international sculpture), S:215 with picture Guizot, François Pierre Guillaume, G:420 Gujarat [India], G:420 with pictures and Bombay (History), B:441 India, Languages of, 1:121 Maharashtra (Independence), M:67 Gujarati India, Languages of (Modern Indo-European languages), 1:123 Gulag Archipelago, 1918-1956, The [book by Solzhenitsyn] Russian literature (Recent Soviet literaturel. R:501 Solzhenitsyn, Alexander, So:34 Gulbenkian, Calouste Sarkis (British financierl, G:424 Gulbenklan, Nubar Sarkis (British financier], G:424 Gules Heraldry (Expansion), H:154 Gulf Between, The [film] Technicolor, T:82 Gulf. G:424 **Gulf Coastal Plain** Mexico, M:411 Texas (Land), T:167 United States, U:207 Gulf Cooperation Council, G:424 **Gulf Country** Northern Territory (Land), N:279 Queensland, Q:20 with picture **Gulf of Bothnia** Finland (Land), F:118 Gulf of California, G:424 Pacific Ocean (Coastline and islands), Gulf of Carpentaria, G:424 Northern Territory (Location and size), Queensland (Aborigines), Q:25 **Gulf of Finland** Baltic Sea. B:68

Gulf of Fonseca

Honduras (The southern coast), H281 with map **Gulf of Genoa** Italy (maps), I:453; I:459 **Gulf of Guinea** Africa (maps), A:118; A:136 Gulf of Mexico, G:424 La Salle, Sieur de, L:68 **Gulf of Oman** Persian Gulf, P:296 with map **Gulf of Paria** Trinidad and Tobago (Land and climate), T:406 **Gulf of Riga** Estonia, E:332 with map **Gulf of Saint Lawrence, G:425** Gulf Saint Vincent [Australia], G425 Baudin, Nicolas, B:159 Gulf Stream, G:425 with picture and Atlantic Ocean (Currents), A:719 Franklin, Benjamin (Scientist), F425 Gulf of Mexico, G:424 Labrador Current, L:5 Ocean (Currents), 0:394; picture on Gulf Stream. The [painting by Home!] Homer, Winslow, H:255 Painting (Landscapes and seascapes), P:35; (United States painting) P:73 with picture Gull, G:426 with picture Bird picture on, B:317, B:342 See Oesophagus Gulliver's Travels English literature, G:427 with picture Irish literature (Early works in English), 1:382 Satire, S:99 Science fiction (Beginnings), S:151 Swift, Jonathan, So:481 **Gully erosion** Erosion (How erosion occurs), E322 with picture Gum, G:427 Gum (anatomy) Periodontitis, P:282 Gum, Bubble Bubble gum, B:605 Gum, Chewing Chewing gum, C:387 Gum arabic (tree product), G:427 Acacla, A:17 Aksum. A:222 Gum, G:427 Gum resin, G:427 Resin. R:238 **Gum rosin** Rosin, R:402 Gum tree, G:428 See also list of Related Articles Australia (Native plants), A:768 with map Gumnut Babies, The lbook by Gibbs Eucalypts, E:347 Gibbs, May, G:154 Cums See Teeth (Periodontal diseases)

Guthrum [Danish military leader]

Alfred the Great (Defeats Danes).

See also list of Related Articles Artillery, A:613 with pictures Cowboy, Cl:406 Handgun, H:41 Maxim, M:272 **Gun control** Handgun, H:43 **Gun director** Warship (Warships in the two world wars), W:46 Gun-type fission bomb Nuclear weapon (Fission weapon), N:335 with picture **Guncotton** lexplosives], G:428 Cellulose (Industrial uses), C:307 Dynamite (Kinds of dynamite), D:365 Gunpowder (History), G:429 Gundagai Australia, G:428 with picture Gungurru (tree) Eucalypts picture on, E:350 Gunn, Mrs. Aeneas (Australian writer), G:429 with portrait Australia, Literature of (Novels), ARRES Cunn, Neil Miller (Scottish writer), G:429 Scottish literature (After 1900), S:177 Gunn, Thom [British poet], G:429 with portrait Gunnell, Sally, G:429 Gunpowder, G:429 See also list of Related Articles Army (The Middle Ages), A:592 Fireworks, F:140 Invention (The Renaissance), 1:316 **Gunpowder Plot, G:430** England (Tradition), E:266 Fawkes, Guy, F:39 Gunter's chain (instument) Surveying (Early tools), So:446 Gunther, Fritz (German chemist) Detergent and soap (The development of detergents), D:139 **Gunung Mulu National Park** Sarawak (Places to visit), S:89 **Gunung Semeru** [mountain] Java picture on, J:68 Gunya, G:430 Guo Moruo (Chinese scholar), G:430 Cuppy [fish], G:430 with picture Animal picture on, A:398 Fish picture on, F:165 Tropical fish, T:414 Gupta dynasty [Indian rulers], G:430 with picture Assam (History), A:670 Bihar (History), B:289 India, History of (The Gupta Empire), 1:106 Sculpture (India), S:197

India), W:340

alism), 1:128

Dam (table), D:13

Guri dam

Nepal (People), N:75; (Economy) Gurnard [fish], G:431 Guru (religion) Buddhism (Other schools of Buddhism), B:618 Hinduism (Hindu worship), H:212 Religion (Hinduism), R:202 Yoga, Y:453 Guru Granth Sahib (Indian sacred text) India, Literature of (Punjabi literature), Gurunsi Burkina Faso (People), B:654 Gusher Petroleum (Rotary drilling), P:343 Gustavus Adolphus [king of Sweden], Army (The rise of modern armies), A:594 Oxenstierna, Axel Gustafsson, O:531 Sweden (The age of expansion), So:474; picture on O:477 Gustavus I [king of Sweden], G:431 Helsinki, H:147 Reformation (Development of the Reformation), R:181 Sweden (The beginnings of modern Sweden), So:473 Gustavus II (king of Sweden) See Gustavus Adolphus Guston, Philip [American painter], G:431 Cort Butterfly (The digestive system), B-6037 **Gutenberg Bible** Bible picture on, B:270 Book (The development of printed books), B:455 Gutenberg, Johannes, G:432 Library of Congress, L:236 Printing (The invention of movable type), P:786 Gutenberg, Johannes [German printer], G:432 with picture and portrait Bible, B:270 with picture Book (The development of printed books), B:455 Communication (The start of printing), Ci:230 Illustration (The first illustrations), Invention (The Renaissance), I:316 Library (Paper, printing, and libraries), L:232 Printing (History), P:786 with picture Type (History), T:484 Guthrie, A. B., Jr. [American author], G:432 West Bengal (Early empires), W:160 Guthrie, Alexander [British merchant], World, History of the (Achievements in 6:432Guthrie, Arlo Gupta, Maithili Saran [Indian writer] Guthrle, Woody, G:433 India, Literature of (The birth of nation-Guthrie, Sir Tyrone [British theatrical

directorl, G:432

G:433 with portrait

Guthrie, Woody [American folk singer],

Gurkhas [people]

A:249 GUT's See Grand unified theories Gutta-percha, G:433 Guy and Pauline [book by Mackenzie] Mackenzie, Sir Compton, M:19 **Guy Fawkes Day** England (Traditions), E:266 Fawkes, Guy, F:39 Gunpowder Plot, G:430 Guy Mannering [novel by Scott] Dandie Dinmont terrier, D:30 Guy of Warwick (legendary figure), G:433 **Guy горе** Tent (Pitching a tent), T:152 Guy, Thomas (English public figure), G:433 with portrait Guyana, G:433 with picture and map CARICOM, C:199 Cult (Modern cults), Ci:489 Flag picture on, F:203 Georgetown, G:102 Latin America (Border disputes), Guys and Dolls (book by Runyon) Runyon, Damon, R:459 Guys and Dolls [musical] Loesser, Frank, L:358 United States picture on, U:205 Guy's Hospital (London) Addison, Thomas, A:35 Guy, Thomas, G:433 Gwardar (snake), G:435 **Gweduc** See Geoduck Gwent [Wales], G:435 with picture and See also list of Related Articles Arms picture on, A:589 Gwin, William M. (American political leader) Pony express, P:670 Gwyn, Nell [English actress], G:437 Drury Lane, D:326 Gwynedd [Wales], G:437 with picture and map See also list of Related Articles Arms picture on, A:589 Gwynne, Nell See Gwyn, Nell Gymnasium, G:440 Education (Ancient Greek education), P-91 Germany (Education), G:121 Physical education (Early history), P:470 Safety (In gymnasiums and on athletic fields), S:12 Gymnastics, G:440 with pictures Olympic Games (The Summer Games), 0:434; (table) 0:439 with

pictures

Gymnastics (sport)

Sweden (Recreation), So:466

Olympic Games table on, 0:438

Gymnosperm (plant), G:442 with pic-

ture Cotyledon, Ci:390 Earth (The Mesozoic Era), E:27 Plant P:543 Seed (Seed development in gymnos-

perms). S:236 Tree (Needleleaf (or coniferous) trees),

N:378 with picture

Gynaecology

Medicine (The specialities), M:311 Obstetrics and gynaecology, 0:383 Surgery, So:439

Győr [Hungary], G:442

Gypsies [people], G:443 with picture Cave dwellers, C:286 Czech Republic (People), Cl:517 Flamenco, F:219

Holocaust, H:249 Romania, R:349

Gypsophila (plant), G:443, G:443 with picture

Gypsum [mineral], G:443 Alabaster, A:223 with picture Mineral picture on. M:485 Plaster, P.575 Plaster of Paris, P:576 Rock (Chemical sediments), R:308 Gypsy [work by Sondheim]

Sondheim, Stephen, So:40 Gypsy Melodies Imusic by Dvořáki Dvořák, Antonin, D:359

Gypsy moth, G:444 with pictures Forestry (Diseases and pests), F:359 Insect picture on, 1:244 Moth picture on, M:642 Tussock moth, T:476

Gypsy Woman with Baby [painting by Modigliani]

Painting (Amedeo Modigliani), P:81: picture on P:84

Gyre loceanographyl

Pacific Ocean (Currents and tides), P:15

Gyrfalcon [bird]

Falcon, F:12 with picture Gyrocompass, G:444

Compass (History), Ci:249 Inertial guidance, 1:227 Navigation, N:51

Sperry, Elmer Ambrose, So:214

Gyropilot

Aeroplane (Engineering improvements), A:83 (The controls and instruments) A:93

Automatic pilot, A:872

Gyroscope, G:445 with pictures Automatic pilot, A:872

Foucault, Jean Bernard Léon, F:374 Gyrocompass, G:444

Gyrostabilizer, G:446 Inertial guidance, 1:227

Laser (Guiding), L:71 Sperry, Elmer Ambrose, So:214

Top (Kinds of tops), T:298 **Gyroscopic precession**

Ballistics (Exterior ballistics), B:59 Gyroscope (Gyroscopic properties). G:445 with diagram

Gyrostabilizer, G:446



H [letter], H:1 with pictures

H-1 (rocket)

Space exploration (lapan), So:161 H (symbol)

Henry [measurement]. H:154 Hydrogen, H:404

H. M. Pulham, Esq. [book by Marguand] Marquand, John Phillips, M:216

H-R diagram

See Hertzsprung-Russell diagram

H-substance

Allergy (How an allergy develops), A:273

Haakon IV [king of Norway] Norway (The Viking period), N:300

Haakon VI [king of Norway] Norway (History), N:300

Haakon VII (king of Norway) Norway (World War II), N:301 Royal families (Norway), R:420

Haam, Ahad

Hebrew language and literature (Modern Hebrew literature), H:130

Haangi

Maori (How the Maori lived), M:174

Haapai

Tonga (Land), T:294

Habakkuk, Book of [Old Testament], H:2

Habana, La Havana, H:79

Habanera

Opera (Carmen), 0:468 Tango, T:27

Habeas corpus [law], H:2

Habeas Corpus Amendment Act 1679 Habeas Corpus, H:2

Haber process (chemistry), H:2 Hydrogen (Hydrogen compounds), H:405

Nitrogen (Production of ammonia), - N:222

Haber, Fritz [German chemist] Chemistry (Growth of industrial chemistry), C:372

Haber process, H:2

Nobel Prizes (Chemistry), N:228

Habgood, John Stapyiton (British religious leader], H:2

Habibullah Khan [emir of Afghanistan] Afghanistan (The Anglo-Afghan wars), A:114 (Independence) A:115

Habit [psychology], H:2

Learning (Theories of learning), L:138

Habit of adjustment

Habit (Kinds of habit), H:2

Habitat [biology], H:3

Animal (Where animals live), A:381; (Destruction of habitat) A:412 with picture

Lake (The lake habitat), L:18 Plant (Where plants live), P:547 Wildlife conservation. W:250

Habitual dislocation linjury Dislocation, D:199

Habsburg, House of Hea See also list of Related Articles

Austria, A:865 with maps Austria-Hungary, A:868 Belgium (Habsburg rule), B:221 Bohemia, B:420

Croatia (History), Ci:446

Czech Republic (Habsburg rule). CI:520 Czechoslovakia (Habsburg rule),

Ci:523 Germany (The Holy Roman Empire). G:131

Holy Roman Empire, H:252 Hungary (Turkish and Habsburg rule).

DEMIN Italy (Spanish and Austrian rule), 1468

Pragmatic sanction, P:735 Prague (History), P:737

Richelieu, Cardinal (His Influence in Europe), R:270 Slovenia (History), S:494

Switzerland (The struggle for freedom), So:500

Thirty Years' War (The Swedish-French period). T:221

Vienna (History), V:373 Habyarimana, Juvenal (president of

Rwandal Burundi (History), B:666

Habyarimana, Major General Juveni [African military leader]

Rwanda (History), R:508

Hacienda lestatel, H:3

Bolivia (Colonial rule), B:429 Ecuador (People), E:68 Latin America (Rural life), L:80

Mexico (Agriculture), M:414, (Spanish rule) M:418

Hackberry [tree], H:3 Hacking

Industrial espionage (Espionage techniques), 1:208

Hackling

Flax (Growing and processing fibre flax), F:222

Hackney [breed]

Horse (table), H:286; (Ponies) H:290 with picture

Hackney [England], H:3

Hackney carriage, H:3

Hacksaw

Saw (Handsaws), S:116 with picture Tool (Metalworking tools), T:297

Haddock [fish], H:3 with picture

Fish picture on, F:161 Hades (Greek mythology), H:4

See also list of Related Articles Asclepius, A:619

Eurydice, E:401

Mythology (Greek divinities), M:757 Orpheus, 0:506

Hadfield, Sir Robert Abbott British metallurgistl, H:4

Hadí Hajj, H:19 Hadii Murad book by Tolstoy Tolstoy, Leo (Later works). T:290 Hadiee. Sir Richard New Zealand cricketerl. H:4 Cricket picture on, Ci:432 Hadow. Sir William Henry (British educationist]. H:4 Hadrian [Roman emperor], H:4 See also Hadrian's Wall ierusalem (Roman rule), 1:93 Library (Rome), L:230 Hadrian IV [pope] See Adrian IV Hadrian's Wall, H:4 England (The Roman conquest), E:273 with nicture Roman walls, R:347 Scotland, History of, S:167 Hadron [physics], H:4 Gluon. G:216 Meson, M:370 Particle physics (Families of particles), P/206 Ouark, O:7 Haeckel, Ernst Heinrich | German zoologist). H:5 Protest P:R17 Haemangioma Birthmark, B:369 **Haemapheresis** Blood transfusion (How blood is collected and stored), B:402 Baematite, H:5 Iron and steel (Kinds of iron ore), 1:388 Taconite, T:5 Haematocrit Blood (Blood tests), B:399 Haematology [medicine] Ehrlich, Paul, E:130 Haematopoletic growth factor Blood (How the body maintains its blood supply), B:397 (History of blood research) B:400 Anaemia (Excessive destruction of red

Haemogiobin, H:5

blood cells). A:348 Blood (Red blood cells), B:393 with picture (What blood does in the body) B:394 Cyanosis, Ci:508

Haemolysis, H:5

Heredity (Genes and proteins), H:170 Insect (Internal organs), 1:250

laundice, 1:67

Liver (Purification of the blood), L:334 Perutz, Max Ferdinand, P:317

Protein (How the body uses proteins),

Respiration (Internal respiration), R:240

Sickle cell disease, S:410 with pictures Thalassaemia, T:185 Haemolymph

Insect (Internal organs), 1:250 Haemolysis, H;5 Blood (Anaemia), B:400 Streptococcus, So:354

Haemolytic disease of the newborn Rh factor, R:249

Haemolytic jaundice laundice. I:67

Haemophilia, H-5 with diagram Rigeding (How bleeding is stopped). R-386

Blood (Bleeding disorders), B:400 Coaquiant, Ci:118

Heredity (table), H:169

Plasma (Uses in medicine), P:575 Von Willebrand's disease, V:426

Haemorrhage, H:6 Bleeding, B:386

> Cerebral haemorrhage, C:327 First aid (First aid for bleeding), F:142

Stroke (Causes), So:358 Tourniquet T:315

Haemorrhoids, H:6 Varicose vein. V:315

Haemostat

Surgery (A typical operation), So:439

Hafiz [Persian poet], H:6 Iran (The arts). 1:336 Hafnium leiementi. H:6

Hagar (Biblical figure) Abraham, A:15 Ishmael, 1:412

Hagen, Walter | American golferl, H:7 Hagenbeck, Carl (German animal trainerl. H:7 Zoo (History), Z:505

Hagfish, H:7 with picture

Animal (Chemical defences), A:404 Fish (Lampreys and hagfish), F:156 Lamprey, L:38

Hagg, Gerald (South African sculptor) Sculpture (Environmental sculpture),

Haggai, Book of Old Testamentl, H:7 Haggard, Sir Henry Rider (British writerl. H:7

Haggis [food] Scotland (Food and drink), S:161

Häggjund, joel Hill, Joe, H:203

Hagia Sophia, H:7

Architecture (Byzantine architecture). A:523; pictures on A:524 Byzantine art (Architecture), B:696

Byzantine Empire (The empire under (ustinian), B:701 with picture

Hagiographa Old Testament (The writings), 0:427 Hagiography [literature]

Biography (The Middle Ages), B:301 Hague, The [The Netherlands], Hi8

Netherlands (Government), N:89 with picture

Hague Convention, The Hijacking, H:201 Prisoner of War, P:791

Hague Peace Conference [1899] International law (In the 1800's), I:292 See also Hague Convention

Hague Peace Conference [1907] International law (in the 1800's), I:292 See also Hague Convention Neutrality, N:103 Right of Search, R:276 Hahajima (island, Japan)

Ronin Islands, B:449 Hahn, Kurt [German educator], H:8

Outward Bound Trust. 0:524 Hahn, Otto (German chemist), H:8

Meitner, Lise, M:327

Nuclear energy (The first artificially created fission reaction). N:329 Physics (Uncovering the secrets of the

atom), P:478 Protactinium, P:812 Strassmann, Fritz, Sot344

Uranium (History of the uses of uranium) 11:276

Hahnemann, Samuel (German doctor), H:8

Homeopathy, H:254

Halfa [[srae]], H:9

Israel (City life), i:432; picture on I:437 Haig, Douglas (British military leader),

H:9 World War I (The Battle of the

Somme), W:368; (Allied failures) W:371

Haio, Earl

See Haig, Douglas

Haik [clothing]

Algeria (Clothing), A:262

Maileo

lapan (Recreation), 1:43 Japanese literature (The Tokugawa period), J:64

Poetry (Lyric poetry), P:609 Hall [weather], H:9 with picture

See also Sleet; Storm Hail embryo

Hail. H:9

Haile-Marlam, Mengistu (Ethiopian military leaderl Ethiopia (Military take-over), E:341

Halle Selassie I (emperor of Ethiopia), H:9 with portrait

Eritrea (History), E:320 Fthiopia, E:341

Italo-Ethiopian War, I:446 Rastafarians, R:140

Hailsham, Lord [British statesman], H:9 Hailstone

Hail, H:9 with picture

Haines, Janine Australian political leaderl, H:10

Halphong [Vietnam], H:10

Hanoi, H:55

Vietnam War (U.S. troop withdrawal begins), V:384

Hair, H:10 with pictures

See also list of Related Articles Cosmetics (Kinds of cosmetics), Ci:369 Hairdressing, H:12 with pictures

Keratin, K:236

Mammal, M:127 Skin (Hair, nails, and glands), S:469

Ear (The inner ear), E:8; (How sounds reach the brain) E:10 with diagram; (The response to gravity) F:11

Hair follicle Acne, A:24

Hair hygrometer

Hydrometer, H:410 with picture with portrait Mineral (Mineral crystals), M486 with Hair-spring Life (The theory of modern evolution), Watch (Mechanical watch), W:66 1-249 picture and diagrams Hair transplanting Hale, George Ellery | American astropo-Salt. S:55 Hall. Ben Australian bushrangeri, Haz Baldness, B:39 merl. H:20 Hair weaving Mount Wilson Observatory, M:664 Hall, Charles Martin Aluminium (How aluminium is made Baldness, B:39 Palomar Observatory, P:110 Hairball Sun (Early sun science), So:420 A:292; History A:295 Cat (Grooming), C:252 Hall, James Norman (American author) Yerkes Observatory, Y:452 Hairbell Hale, Nathan (American patriot), H:20 Nordhoff and Hall, N:239 Bluebell, B:408 with picture Hall, Jim [Australian boxer] Helr film Hale, William [English inventor] Boxing (Boxing in Australia and New Tharp, Twyla, T:187 Rocket (Early rockets), R:322 Zealand), B:498 Hale [musical] Hales, Stephen (English ciergyman) Hall. Sir lames (Scottish geologist) Musical comedy (Musical comedy Heart (Discovery of circulation), H:111 Geology (Experimental geology), G:90 todayl, M:740 Halevi, Judah (Hebrew writer), H:21 Hall, Sir Peter English theatrical direc-Hairdressing, H:12 with pictures Hebrew language and literature torl. H:22 See also list of Related Articles Hall effect [electricity], H:22 (Medieval works), H:129 Barber, B:105 Halévy, Ludovic [French librettist] Hall of Mirrors Roaring Twenties, R:299 Opera (Carmen), 0:468 Versailles, V:347 Hairdrier Haley, Alex [American author], H:21 Hall of One Hundred Columns Hairdressing (The 1800's), H:13 Architecture (Mesopotamian architecwith portrait Hairpiece American literature (Fiction and other ture), A:517 Baldness, B:39 prose), A:320 Hall of the Great Buddha Hairpowder tax Half brother Temple picture on. T:138 Taxation (History), T:70 Family (Family relationships), F:20 Hallaca [food] Hairstreak [entomology] Venezuela (Food), V:330 Butterfly, B:682 with pictures Isotope (Radioactive isotope), I:427 Hallam, Henry [English historian], H:22 Hairstylist Nuclear energy (Radioactive decay), Haifbank Hairdressing, H:12 Indian Ocean (Ocean floor), 1:171 Hairworm Radioactivity, R:88 Hallé, Sir Charles [German conductor] Horsehair worm, H:310 Radiocarbon (Radiocarbon dating), Hairy Ape, The [play by O'Neill] R:90 with diagrams Halley, Edmond (English astronomer), O'Neill, Eugene Gladstone, 0:452 Radiogeology, R:91 H:22 with portrait Hairy cap moss Uranium (Radioactivity and fissionabil-Comet. Ci:215 Moss, M:636 ity), U:273 Hallev's Comet, H:22 Hairy-nosed wombat Half Mile Down book by Beebel Map (Advances in European cartogra-Wombat, W:292 Beebe, William, B:192 phy), M:191 Hairy woodpecker Half Moon [ship] Newton, Sir Isaac, N:188 Woodpecker picture on W:306 Hudson, Henry (North American voy-Halley's Comet, H:22 Haise, Fred W., Jr. (American astronaut) Astronomy picture on, A:685 ages). H:338 Space exploration (The shuttle era be-Half relief Comet, Cl:215 with picture gins), So:158 Relief, R:195 with picture Hailey, Edmond, H:22 Halti, H:15 with pictures and map Space exploration (Probes to comets), Half shaft Dominican Republic (History), D:261 Car (The drive system), C:157 So:145 with picture; (Other na-Duvalier, François, D:359 Half sister tions in space) So:161 Flag picture on, F:203 Family (Family relationships), F:20 Halifburton, Richard [American au-Hispaniola, H:222 Half stitch thorl H:23 Latin America (Latin America and the Petit point, P:326 Hallmark, H:23 with pictures United States), L:93 Half-volley Gold, G:235 Port-au-Prince, P:693 Halloween [festival], H:24 with picture Cricket (Playing cricket), Ci:428 Toussaint L'Ouverture, T:313 Witchcraft (The powers of witches) Halfpenny Voodoo, V:426 with picture Penny, P:264 W:281 World War II (table: the Allies), W:381 Hallucinated City Ipoem by Andradel Halftone [printing] Hajj [religion], H:19 Latin-American literature (The early Photoengraving and photolithography, Islam (Pilgrimages to Mecca), 1:416 P:436 1900's), L:96 Mecca, M:302 with picture Printing, P:781 Hallucination, H:24 Abnormal psychology (Theories of ab Haka Halfway house Maoris (Oral literature), M:178 Prison (Reforms in the 1900's), P:791 normal psychologyl, A:12 Hakama (clothing) Halibut, H:21 with picture Hashish, H:74 Japan (Clothing), J:42 See also Flatfish; Flounder LSD. L:409 Mental illness (Organic disorders), Hake [fish], H:19 with picture Halide [chemistry] Haken, Wolfgang [German-born mathe-Halogen, H:25 M:351 maticiani Halifax (Canada), H:21 Narcolepsy, N:25 Sleep (What happens without sleep), Topology, T:299 Nova Scotia, N:310 with picture Hakluyt, Richard [British clergyman], Halifax (England), H:21 5:464 H:19 See also Calderdale Halfucinogen, H:24 Brain (How drugs affect brain chemis Halcyon days, H:19 Halifax bomber [aircraft] Haldane, J. B. S. [British scientist], H:20

Handley Page, Sir Frederick, H:49

try), B:517

335

Madonna and Child (Types of Madonna paintings), M:34

Halogen, H:25 Astatine, A:677 Bromine., **B:585** Chlorine.. C:475 Eluprine, F:275

Onio. D:313

lodine. 1:324 Halon extinguisher

Fire extinguisher (Liquefied gas extinquisher). F:134

Halothane, H:26 Hals, Frans [Dutch painter], H:26 Painting (Dutch painting), P:64 with

picture Haisey, William Frederick, Jr. [American naval commander!, H:26

Haisted, William (American surgeon) Dentistry (Modern dentistry), D:121 Surgery (History), So:439

Haltere [entomology] Fly (Thorax), F:278 with diagram

Insect (Wings), 1:250 Mosquito (Thorax), M:634 with diagram

Halton (Cheshire), H:26

Halva (food)

West Bank (People), W:157 Ham (Biblical figure)

Noah, N:225

Ham (chimpanzee) Space exploration (Vostok and Mercury: The first human beings in space), So:145

Ham |food], H:26

See also Meat; Meat processing; Pork Ham [radio]

Radio, Amateur, R:87 Hamadryad [mythology]

Nymph, N:370

Hamadryas (baboon) Baboon, B:3 Hamamelin

Witch hazel, W:281

Haman [Old Testament], H:27 Esther, Book of, E:335

Purim, P:865 Hambledon [England]

Hampshire (Recreation), H:33 Hambleton [England], H:27

See also Yorkshire

Hamburg [Germany], H:27 with picture Hamburg Dramaturgy, The Iplay by Lessing]

Drama (Germany), D:296 Lessing, Gotthold Ephraim, L:187 Hamburger [food]

Food (Interesting facts about food), F:294

Hamengku Buwono IX, H:28 Hamersley Range, H:28 Hamilcar Barca, H:28 Barcelona, B:108

Hannibal (His early life), H:54

Hamilton (Australia), H:28

Hamilton [Bermuda], H:28 with picture Rermuda, R:257

Hamilton [Canada], H:29

Hamilton [New Zealand], H:29 with pictures

Hamilton (Scotland), H:29

Hamilton, Alexander | American statesmanl. H:29

lefferson, Thomas (Political career), 1:80 United States, History of the (Solving financial problems), U:243

Washington, D.C. (History), W:59

Hamilton, Charles

Richards, Frank, R:268 Hamilton, Eroma (British public figure) Nelson, Horatio (Battle of the Nile).

N:72

Hamilton, Sir William

let boat. I:101

Hamilton Fish . . . [book by Nevins] Nevins, Allan, N:106

Hamilton-Gordon, John Campbell Aberdeen and Temair, Marquess of, AdO

Hamilton Island, H:30

Hamites [people], H:30

Ethiopia (Population, ancestry, and languages), E:338

Hamka IIndonesian leader], H:30 Hamlet film

Film Industry (Best picture), F:96 Olivier, Laurence. 0:430

Hamlet [play by Shakespeare] Ghost, G:150

Shakespeare William, S:316 with pic-

Hammarskiöld, Dag (Swedish diplo-

United Nations (UN) (The secretarygeneral), U:167 with portrait

Hammer (anatomy) Far (The middle ear), E:7 with diagram

Hammer loun

Handgun (Types of handguns), H:42 with diagram Rifle (How a rifle works), R:274

Hammer Itool), H:31 with pictures

Hammer throw [sport], H:31

Athletics (Throwing events), A:712 Olympic Games (table: Track and field), 0:441

Hammered dulcimer

Dulcimer, D:343 with picture Hammerhead [fish], H:31

Shark, S:333

Hammerkop

Bird picture on, B:327

Hammersmith and Fulham [England], H:31

Hammerstein, Oscar, II [American dramatistl, H:32 with portrait

Musical comedy (Musical comedy matures), M:740

Rodgers, Richard, R:330

A:318

Hammett, Dashiell (American novelist), American literature (Realist fiction).

horn sonranol H:32 Hammond, John Hays, Ir. [American

Hammond, Dame Joan [New Zealand-

inventori, H:32

Hammond, Walter Reginald [English cricketerl. H:32 Hammurabi (king of Babylon), H:32 with

picture Babylon (The old Babylonian Empire), B:11 with portrait

World, History of the (The Tigris-Furnhrates Valley), W:332

Hammurabi, Code of [[aw]] Hammurahi, H:32

Law (Farly developments in the East). L:113

Theography, T:213

World, History of the (The Tiaris-Fuphrates Valleyl, W:332

Hampden, John (English Parliamentary leaderl, H:33 Hampden bomber [aircraft]

Handley Page, Sir Frederick, H:49 Hampshire [England], H:33 with pic-

nires and map See also list of Related Articles Arms picture on, A:585

Hampshire Basin

Hampshire (Land regions), H:35

Hampton, Lionel [American jazz musicianl. H:36

lazz (The swing era), 1:76 with picture Hampton Court [England], H:36 with picture

Grace and favour. G:281 Royal Family of the United Kingdom (Royal houses), R:425

Hampton Court Conference, H:37 Puritans (History), P:866

Hampton Roads, Battle of

American Civil War (First battle between ironclads), A:306 Monitor and Merrimack, M:562

Navy (Engineering advances), N:61 Warship (Warships of the 1800's). WAS

Hamra

Beirut, **B:208** Hamster, H:37

Pet (kinds of pets),, G:320 Hamstring

Leg (The thigh), L:153

Hamsun, Knut [Norwegian author], H:37

Han [people]

China (Nationalities), C:438 with map Han [river, South Korea]

Seoul (The city), S:258; (History) S:260 Han dynasty [Chinese history], H:37

with map

Asia (The Huang He and Yangtze Valleys), A:657

China (The arts), C:446 with picture; (The early empire) C:459

Great Wall of China, G:329

Liu Bang, L:333

Sculpture (China), S:200

World, History of the (Achievements in China), W:341 with pictures

Embroidery, E:226 with picture

Hobby (Kinds of hobbies), H:236

Indian, American (Arts and crafts).

Han Kao-tsu 1:146 with pictures Hannover See Liu Band Latin America, LaN6 with picture See Hanover Han Wudi [Chinese ruler], H:38 Maoris (Arts and crafts), M:178 Hanoi [Vietnam], H:55 Hanover (city, Germany), H:56 with pie Hancock, George W. Handkerchief H:49 Softball (History), So:19 Handley Page, Sir Frederick (English) ture Hancock, Lang [Australian prospector]. aircraft designer! H:49 Hanover [English history] Handley, Tommy [English comedian]. Brunswick, B:601 Hand [anatomy], H:39 with pictures H:49 with portrait George I. G:100 Windsor [Royal family], W:271 Carpal tunnel syndrome. C:208 Hande Skeleton (The appendicular skeleton), See Hand Hanover Iregion, Germanyl, Hisk S:461 with diagram Hans Brinker, or, The Silver Skates Handsot Wrist, W:420 Telephone (How a telephone works). (book by Dodge) Hand [hotany] Dodge, Mary Elizabeth Mapes, D:220 T:105 diagram on T:106 Banana (How bananas grow), B:71 with Handwriting, H:50 with pictures with picture pictures See also list of Related Articles Hans Christian Andersen film Hand funit of measure Charlemagne (Administration and in-Kave, Danny, K:204 Horse (Size), H:291 fluencel. C:349 Hansa (German history) Weights and measures, W:136 Police laboratory (Analysing the evi-Hanseatic League, H:56 Hand axe dence), P:644 Hansard [Parliamentary reports], H56 Prehistoric people (Homo erectus), Handwriting analysis Hansard, Thomas Curson British pul-Graphology, G:301 P:752 with picture lisher Hand forging Handwriting on the wall, H:54 Hansard, H:56 Handy, W. C. [American composer], Forging, F:361 Hansberry, Lorraine (American play-Hand grenade H:54 with portrait wrightl See Grenade Blues, **B:411** American literature (Drama), A:321 Hand loom Memphis, M:343 Hanseatic League, H:56 Textile picture on, T:175 Hang-chou Flag picture on, F:211 Weaving (Kinds of looms), W:125 with See Hangzhou Gdańsk (History), G:67 picture Hang gliding Germany (The rise of cities), G:131 Hand-operated lib crane Glider, G:209 with picture Lübeck, L:410 Crane, Ci:416 Hang Tuah (Malay folk hero), H:54 Middle Ages (Economic recovery), Hand organ (musical instrument), H:39 Hanging, H:54 with picture Trade route (Medieval routes), T:327 Capital punishment, C:144 Handball (sport), H:39 with pictures Convicts in Australia (Punishment). Hansel and Gretel lopera by Humper Gaelic games, G:6 CI-322 dinckl Ireland (Recreation), 1:355 Humperdinck, Engelbert, H:371 Hanging Gardens of Babylon Handbook of a Christian Soldier Babylon (The New Babylonian Empire). "Hansel and Gretel" [story] (book by Erasmus) Grimm's Fairy Tales, G:377 with pic-Erasmus, Desiderius, E:317 Seven Wonders of the Ancient World, ture Handcuffs, H:40 with picture S:279 with picture Hansen's bacillus Handel, George Frideric (German-World, History of the (Middle Eastern Leprosy (Causes), L:180 born composerl, H:41 with portrait civilizations), W:336 Hansen's disease Leprosy (Causes), L:183 with pictures Oratorio, 0:484 Hanging valley, H:54 Handful of Dust, A [book by Waugh] Valley (Kinds of valleys), V:303 Hanson, Duane (American artist) Sculpture (Colour), S:192; (The super Waugh, Evelyn, W:103 Hangman's day realists) S:218; picture on S:217 Handful of Friends, A [work by Wil-Friday, F:459 liamsonl Hanukkah [festival], H:57 with picture Hangzhou (China), H:54 Williamson, David, W:258 Haniwa (clay figures) Judah Maccabee, J:153 Judaism (Holy days and festivals), [1]56 Handgun [firearm], H:41 with pictures Sculpture (Japan), S:201 See also list of Related Articles Hanuman (literary figure), H:57 Hankou Handicap [sports], H:44 Wuhan, W:424 Hanyang Golf (table), G:245 Hannan, Paddy [Australian prospector], Wuhan, W:424 Horse racing (Types of horse races), Happy End [music by Weili] H:307 Hannay, James Owen Weill, Kurt, W:141 Happy Jack Imusic by The Whol Polo (The game), P:657 Birmingham, George A., B:366 Sailing (Handicap races), S:26 Hannibal (Carthaginian general), H:54 Who, The, W:241 Happy Prince, The work by William Handicapped (disabled), H:44 with picwith picture Carthage (History), C:214 sonl Williamson, Malcolm, W:259 Library (Services for special groups). Elephant, E:202 Happy Prince and Other Tales, Tile L:217 Hamilcar Barca, H:28 Occupational therapy, 0:384 Punic Wars (The Second Punic War), [book by Wildel Quota International, Q:31 P:857 Wilde, Oscar, W:249 Happy Valley [novel by White] Reading (Causes of reading difficul-Rome, Ancient (Expansion overseas), Australia, Literature of (Modern nov ties), R:157 Handicraft, H:47 with pictures Scipio Africanus, Publius Cornelius, els), A:832 Happy Valley (book by White) Embossing, E:226 with picture S:153

Hanno [Carthaginian explorer]

Cameroon (History), C:60

Exploration (The Phoenicians), E:417

White, Patrick, W:231

See Habsburg, House of

Hapsburg, House of

H:58 with portrait Hara-kiri (suicide). H:57 Harding, Warren Gamaliel (U.S. presi-Samurai. S:63 dentl H:58 Harakeke Teapot Dome, T:80 Maoris (Clothing), M:175 Hardness, H:58 Herald V Iking of Norway Norway (Recent developments). N:302 Borazon, B:465 Royal families (Norway), R:420; picture Diamond, D:153 an R:419 Mineral, M:486 Harappa [ancient city] India, History of (The Indus Valley peo-Quartz. 0:8 ple), 1:102 with picture Rock. R:310 Hardtack Indus Valley civilization, 1:206 Scurvy, **S:220** Pakistan (The Indus Valley civilization), Hardware Computer, Personal, Ci:269 Sculpture (Indus Valley), S:196 World, History of the (The Indus Valsoftware). Ci:257 levi. W:335 Hardwood Harappan civilization India, Art of, I:83 Forest products (Timber), F:354 Indus Valley civilization, 1:206 Lignum vitae, L:275 Harare (Zimbabwel, H:57 Timber (Kinds of timber). T:248 Zimbabwe picture on. Z:494 Tree (Broadleaf trees), T:374 Haras du Pin, Le [painting] Wood (Kinds of wood), W:299 with Dufy, Raoul picture on, D:342 pictures Harbin (Chinal, H:57 Harborough (England), H:58 ingl. W:308 Harbour, H:58 with pictures Hardy, Frank [Australian author], H:59 See also list of Related Articles Hardy, Oliver [American actor] Hard bop Laurel and Hardy, L:106 with picture lazz. 1:77 Hard Cash book by Readel Reade, Charles, R:149 Dorset, D:269 Novel (Great Britain), N:312 Hard coal Hare [animal], H:59 with picture Coal (How coal was formed), Cl:120 Hard disk Rabbit, R:36

Computer, Personal (Hardware), Cl:269

Computer (Disk drives and tape

drives), Cl:258 Hard edge painting

South Africa, Art of (Overseas influences), So:71

Hard-lander Space exploration (Space probes),

So:142 Hard Lines [work by Nash]

Nash, Ogden, N:26 with portrait Hard magnetic material

Magnetism (Permanent magnets), M:55

Hard-paste porcelain Porcelain (Kinds of porcelain), P:688

Pottery (Porcelain), P:722

Hard-shell clam Clam, Ch50 with picture Hard Times book by Dickens

Dickens, Charles (The second phase), D:161

Hardboard

Forest products (Fibre products), F:354

Wallboard, W:24 Hardecanute (Danish king)

Harold III, H:64 Hardening (biology)

Acclimatization, A:20 Hardening of the arteries Arteriosclerosis, A:605

Hardie, Keir (British political leader),

Gem (Qualities of gem minerals), G:70

Computer (Computer hardware and

Broadleaf forests, T:381 with picture

Woodworking (Wood for woodwork-

Hardy, Thomas (British author), H:59

Hare Clark system Preferential votino, P:741

Proportional representation, P:809 Hare Krishna [religious group]

Cuit (Modern cults), Ci:489 Yoga, Y:453

Hare system

See Hare Clark system

Hare, William (Scottish criminal) Burke and Hare, B:653

Harebell

Bluebell, B:408

Harelip

Cleft palate, Cl:72

Harem, H:60

Ottoman Empire (People), 0:519 Persia, Ancient (Way of life), P:293

Harem herd Impala, I:45

K:292

Hargrave, Lawrence [Australian aviator), H:60 with portrait

Aeroplane (Powered flight), A:77 Kite (The box kite), K:291 (History)

Hargraves, Edward Hammond [Australian goldminer!, H:60 with por-

Hargreaves, James [British Inventor], H:60 with picture

Industrial Revolution (Spinning machines), 1:213 Invention (Why people invent), 1:310

Spinning jenny, So:230 Spinning (The spinning jenny), So:230 Textile (The Industrial Revolution). T:175

Hari-kari

See Hara-kiri Hari, Mata

See Mata Hari Hariecha Images

Sculpture (Pacific Islands sculpture). S:204

Haringev [England], H:61

Harington, Sir Charles Robert British chemistl. H:61

Harishchandra, Bharentendu (Indian India Literature of (The birth of nation-

alism), E128

Hartvamsha [epic poem] Mahabharata, M:62

Harkins, William Draper [American chemistl. H:61

Harlech (Wales), H:61 Gwynedd (Places to visit), G:439

Harlem (district) New York City (Manhattan), N:143 United States picture on, U:198

Harlem Renaissance American literature, A:318

Harlequin (clown) Drama (Commedia dell'arte), D:291 with picture

Pantomime, P:131 Harleguin (book by West) West, Morris, W:155

Harlequin hat Hat (History), H:78

Harleguin tuskfish Fish picture on, F:163

Harleguinade

Dancing picture on, D:22 Harley Street [London], H:61

Harlow (England), H:61

Essex (People and government), E:332 Harlow, Harry Frederick |American

psychologist), H:62 Harmattan (weather), H:62

Cambia (Land), G:22

Harmonic progression

Progression, P:795 Series (Working with infinite series), S:270

Harmonic telegraph Telephone (History), T:109

Harmonic variation Variation, V:315

Harmonica (musical instrument), H:62 with pictures

See also Sound; Tone

Harmonics, H:62 with picture Pitch, P:524

Harmonischer Gottes-Dienst | music

by Telemann)

Telemann, Georg Philipp, T:104

Harmonium [musical instrument], H:63 Harmony [aesthetics]

Art and the arts (Enjoying the arts),

Design (Harmony, or balance), D:134 Harmony [music], H:63

Music, M:730

Rameau, Jean-Philippe, R:131 Harmsworth, Alfred Charles William [British journalist]. H:63 Northcliffe, Viscount, N:267 Harmsworth, Harold Sidney British journalist]. H:63 Harness (machine) Textile (Woven fabrics), T:171 Weaving (Weaving on a loom), W:125 Harness [parachute] Parachute (Parts of a parachute), P:159 with picture Harness (riding equipment), H:63 with picture Transportation (The Middle Ages). T:352 Harness, Henry D. (British cartographerl Map (The development of thematic mapping), M:192 Harness horse Horse (table), H:286; (Light harness horses) H:288 Harold book by Bulwer-Lyttonl Bulwer-Lytton, Edward George Earle Lytton, B:643 Harold I [king of England], H:64 Harold I [king of Norway], H:64 Norway (The Viking period), N:300 Harold II (king of England), H:64 Edward the Confessor, E:95 England (The Norman Conquest). E:275 Hastings, Battle of, H:75 Norman Conquest, N:243 William I, the Conqueror, W:255 Harold III [king of Norway], H:64 Harold, Earl of Wessex See also Harold I [king of England] Wales (Medieval Wales), W:16 Harp (constellation) See Lyra Harp [musical instrument], H:64 with pictures Aeolian harp, A:69 Music (Plucked stringed instruments), M:728 with pictures Harpers Ferry [U.S.A.] American Civil War (Battle of Antietam), A:306 Brown, John, B:592 Harper's Weekly Nast, Thomas, N:28 Harpoon [weapon], H:65 with picture Fishing industry, F:193 Prehistoric people (The improvement of tools), P:758 Whale (The Basque people), W:211 Harpsichord [musical instrument], H:65 with picture Couperin, François, Ci:397

ment of poetry), A:830

Harpur, Charles [Australian poet], H:65

Harrogate [England], H:69

Music (Keyboard instruments), M:729 with picture Piano (History), P:483 Scarlatti, Domenico, S:123 Harpur, Charles [Australian writer] Australia, Literature of (The develop-

Harpy (mythology), H:66 Harrow lagriculture), H:69 Harpy eagle. H:66 with picture Harrow [England], H:69 Fagle (Other kinds of eagles), E:5 Harrow School Harquebus [weapon]. H:66 with picture Harrow H-69 Harry and Lucy book by Edgeworth Harrier (bird). H:66 with picture Hawk picture on, H:84 Edgeworth, Maria, E:76 Harsha (Indian king), H:69 Harrier (dog). H:66 with picture Harrier hawk Harsha-vardhana Hawk. H:83 Harsha H:69 Harriman, W. Averell [American states-Hart (England), H:69 manl. H:67 See also Hampshire Harris [island, Scotland] Hart. Lorenz [American sonowriter]. Hebrides, H:131 11:69 Musical comedy (Musical comedy ma-Harris, Sir Arthur British air force leader]. H:67 with portrait tures). M:739 Harris, Alexander (Australian writer) Rodgers, Richard, R:330 Hart, Moss [American playwright], His Australia, Literature of (Early prose). A:030 Kaufman, George S., K:202 Harris, Benjamin [American publisher]. Hart, Steve [Australian gangster] Kelly, Ned (Kelly's last stand), K:214 Harris, Howel [Welsh religious leader], Hart, W. E. [Australian aviator], H:69 Aeroplane (Other pioneer planes and Harris, Joel Chandler [American aufliers). A:80 thorl. H:67 Aviation (Beginnings), A:882 American literature (Realists), A:315 Harte, Bret (American author), H:70 Harris, John Beynon American literature Realists, A:315 Wyndham, John, W:426 Hartebeest [animal], H:70 with picture Harris, John (Australian surgeon), H:68 Hartford (U.S.A.), H:70 Harris, John (English theologian) Hartleppol [England], H:70 Encyclopedia (An age of experiment). Hartley, L. P. (British author), H:70 Hartiey, Marsden (American painter), F:240 Harris, Lawren [Canadian painter] H:71 Group of Seven, G:385 Hartmann von Aue [German poet], Harris, Max [Australian writer] 10.75 German literature (Epic poetry), G:107 Australia, Literature of (Modern short Hartog, Dirk [Dutch explorer], H:71 with stories). A:832 Harris, Paul P. [American lawver] picture and map Australia, History of (First sightings), Rotary International, R:406 Harris, Reg (British racing cyclist), H:68 A:797 with portrait Dutch explorers, D:358 Harris, Rolf [Australian entertainer]. Western Australia, W:182 H-68 Harty, Sir Hamilton IIrish composed, Harris, Roy [American composer], H:68 H:72 Harun al-Rashid (Muslim ruler), H:72 Harris, Townsend [U.S. diplomat] Harunobu (Japanese artist), H:72 Japan (Renewed relations with the Japanese print (The master print art West), 1:57 Harris Papyrus 1 [manuscript] ists), 1:65 Library (Libraries of papyrus), L:229 Harvard University (U.S.A.J, H:72 Harrison, Benjamin (U.S. president), Harvard University Library Library (The United States), 1:233 Harrison, Frederic [British author]. Harvest moon, H:72 H:68 Harvester ant Harrison, George (British musician) Ant (Kinds of ants), A:433 Beatles, B:174 Insect (Family life), I:256 Rock music (The Beatles), R:312 with Harvester (machine) Hay, H:89 McCormick, Cyrus Hall, M:287 Harrison, John English instrument maker], H:68 Reaper, R:161 Chronometer, C:498 Threshing machine, T:230 Harrison, William Henry (American Harvesting Agriculture (The invention of new farm military commander] equipment), A:173 with picture Perry, Oliver Hazard, P:289 Harrison, William Henry [U.S. presi-Apple, A:478 Combine harvester, Cl:214 dentl, H:68 Cotton, Cl:386 with pictures! Harrod, Sir Roy British economistl, 11:69 Forestry, F:356 with pictures Harrods [department store] Fruit, F:474 England picture on, E:272 Hay, H:89 with picture

Maize, M:74

Potato, P:719 Rice. R:265 Tobacco, T:270 Tomato, T:292

Vegetable, V:323 Wine (Harvesting the grapes), W:274

Harvestman [insect], H:72 Daddy longlegs. D:3 with picture Harvey, Bernard G. [American physi-

Mendelevium, M:345

Harvey, Colonel Charles T. Flevated railway, E:209

Harvey, Gabriel [English poet] Nash, Thomas, N:27

Harvey, Neil [Australian cricketer], H:72 Harvey, William [English doctor], H:72

Riology (The Renaissance), B:306 Blood (History of blood research).

Drug (Scientific advances), D:318 Heart (Discovery of circulation). H:111 with picture

Medicine (The beginnings of modern research). M:315

Science (Conducting experiments). S:142; (The scientific revolution)

Harvey, William Henry [Irish botanist], H:73

Harwich [England]

Essex (Transport and communications), F:332

Tendring, T:140

Harwood, Gwen [Australian writer] Australia, Literature of (Modern short stories), A:832

Heryana (India), H:73 India, Languages of, 1:121

Punjab, P:858

Hašek, Jaroslav (Czech writer) Czech Republic (Arts), Cl:518 Hashemy [ship]

Convicts in Australia (End of transportation in the east), Cl:324

Hashish [drug], H:74 Assassination, A:670 Marijuana, M:206

See also Drug abuse Hasidism (religion), H:74

Baal Shem Tov, B:2 Buber, Martin, B:605

Jews (Eastern European religious movements), J:115 with picture Kabbalah, K:178

Haskalah (religion), H:74

Hebrew language and literature (Modern Hebrew literature), H:130 Jews (Emergence into freedom), **£115**

Yiddish language and literature, Y:453 Haslemere Museum (England)

Surrey (Places to visit), So:444 Hasluck, Sir Paul (Australian states-

manj, H:74

Hassan Igrandson of Muhammad Islam (Sects), 1:416 Shiites, S:359

Hassan I [king of Morocco] Morocco (French and Spanish controll MaR15

Hassan II [king of Moroccol, H:74 Hassanali, Noor Ipresident of Trinidad and Tobagol, H:75

Hassett, Lindsay (Australian cricketer), **FP75**

Hastings [England]. H:75 Sussex (Places to visit). So:449

Hastings (New Zealand), H:75 Hastings, Battle of [1066], H:75

England (The Norman Conquest). F:275 with picture

Harold II. H:64

Norman Conquest, N:243

William I, the Conqueror, W:255

Hastings, Warren (British statesman). H-75

Hastingsite Hornblende. H:282

Haston, Dougal (British mountain climberl

Mount Everest, M:657

Hasty generalization Fallacy, F:15

Hat. H:75 with pictures

Fez (hat), F:66 Helmet, H:145 with pictures Stetson, John Batterson, So:320

Hat on the Bed, The Ibook by O'Haral O'Hara, John, 0:417

Hatchery

Fish pictures on, F:153 Salmon (Salmon conservation), S:54

Hatchet fish

Fish picture on, F:164

Hatching [bird]

Bird (Laying and hatching eggs), B:346 Chicken (Breeding and hatching),

C:398 with pictures

Hatfield, House (England)

Hertfordshire (Places to visit), H:185 with picture

Stately homes of Britain and Ireland, So:300

Hatha-voga Yoga, Y:454

Hathaway, Anne lwife of William Shakespearel, H:78 Shakespeare, William (Marriage);

S:301

Hathor (Egyptian mythology), H:78 Isis, I:412

Mythology (Other Egyptian divinities), M:755 with picture

Hatshepsut Iqueen of Egyptl

Egypt, Ancient (The New Kingdom), E:128

Exploration (The first known explorers). E:417

Thutmose III, T:234 Zoo (History), Z:505

Hatta, Mohammad [Indonesian nationalist leader], H:78

Hatteras, Cape

Cape Hatteras, C:136

Hatter's Castle (book by Cronin)

Cronin, A. J., Ci:452

Hattersley, Roy British political leaderl, H:78

Hau Hau Ireligious culti

New Zealand, History of (The New Zealand Wars (1860-1872)). N:170

Haughey, Charles James [Irish politiclan). H:78 with portrait

Fianna Fáil. F:66

Ireland, History of (The Republic of Ireland), 1:377

Hauptmann, Gerhart [German dramatistl. H:78 German literature (Naturalism), G:110

Naturalism (Naturalism in drama), N:48

Hous tambaran

Papua New Guinea (Way of life), P:142 Hausa [people]. H:79 with picture

Niger (People), N:203 with picture Nigeria (People), N:207; (Languages) N:207: (Early kingdoms) N:213

Haute cuisine

France (Food and drink), F:399

Hübner, Johann [German scholar] Encyclopedia (An age of experiment), E:240

Havana [Cuba], H:79 with picture Cuba. Cl:472

Spanish-American War (American intervention), So:189

Havant (England), H:80

See also Hampshire

Havel, Václav [Czech political leader],

Czech Republic (The Velvet Revolution). Cl:521: (The breakup of Czechoslovakial Ci:521

Czechoslovakia (The Velvet Revolution), Cl:526

Drama (Drama in other countries). D-301

Havelok the Dane (legendary figure), Hato

Havering [England], H:80 Haversian canals (anatomy), H:80 Haw

Hawthorn, H:88

Hawaii, H:80 with picture and map Honolulu, H:272

Kamehameha I, K:184

Pearl Harbor Naval Base, P:235 with picture

Hawaiian goose

Bird picture on, B:335 Nene. N:73

Hawailan honeycreeper, H:82 with pictures

Hawaiki

Maori, M:174

Hawdon, Joseph (Australian pioneer),

Bonney, Charles, B:452

Hawfinch, H:83 with picture Finch, F:109

Hawick (town, Scotland)

Borders Region, B:466 Hawk [bird], H:83 with pictures

See also list of Related Articles Bird picture on, B:340

Hawk eagle [bird]

Eagle, E:2 (Other kinds of eagles) E:5 Hawk in the Rain, The lpoetry by

Hawton (England)

N:307

Nottinghamshire (Places to visit),

Haxby's Circus [novel by Pritchard]

Australia, Literature of (Modern nov-

Hughesl els). A:832 Haze [weather] Hughes, Ted, H:342 **Haxey Hood Game** Fog. F:284 Hazel [tree], H:92 with picture Hawk moth, H:85 Humberside (Customs), H:364 Animal picture on, A:398 Hay |feed| H:89 with nicture Hazel put Insect picture on, 1:255 Alfalfa (As livestock feed), A:246 Filbert, F:79 Moth. M:643 with nicture Horse (Food), H:298 Hazel, H:92 Haziltt, William (English critic), Haz Hawke, Bob (Australian political leader). Rake, R:126 with picture Timothy, T:258 Essay (Formal essays), E:330 Australia, History of (Australia since Hay fever, H:89 He Isymboll Allergy, A:273 Helium, H:143 1960), A:823:826 Australian Labor Party (History), A:846 Goldenrod, G:240 Head [anatomy], H:92 with diagrams Hawke, Robert James Lee Pollen, P:655 See also list of Related Articles See Hawke, Bob Ragweed, R:96 Ant. A:428 Hawker, George Charles (Australian Sneezing, S:519 Beaver, B:176 pioneerl, H:86 Hay Fever play by Cowardl Butterfly, B:686 Hawker, Harry George (Australian pio-Coward, Sir Noel, Ci:404 Fly. F:278 with diagram neer], H:86 Hay-Pauncefote Treaty, H:90 Insect. I:248 Hawkes, Jacquetta [English archaeolo-Clayton-Bulwer Treaty, Cl:71 Moth. M:639 gistl. H:86 Panama Canal (The United States and Head (botany) Hawkes, John [American writer] the canal), P:124 Inflorescence, I:232 American literature (Fiction and other Hav. George Campbell (Scottish writer) Head (sound recording) prose), A:320 Scottish literature (After 1900), S:177 Tape recorder (How tape recorders Hawkesbury [river, Australia], H:86 Hav. Jan | Scottish author|. H:89 work). T:37 Macquarie, Lachlan (Developing the Havam Wuruk (Japanese ruler), H:90 Head. Bessle (South African writer) colonyl, M:23 See also Majapahit South Africa (Arts), So:61 Hawkesbury River Valley Havdamaki (poem by Shevchenko) Head lettuce New South Wales (History), N:133 Shevchenko, Taras, S:358 Lettuce (Kinds of lettuce), L:194 Hawking, Stephen William (British Hayden, Bill Head louse physicistl. H:86 with portrait See Hayden, William George Hair (Disorders of the hair and scalp), Hawking Hayden, Melissa | Canadian dancer]. DH12 See Falconry H-en Louse, L:403 Hawking glove Hayden, William George (Australian) Head shrinking Glove picture on, G:214 political leader]. H:90 with portrait Headhunter, H:94 Hawkins, Coleman (American jazz Australia, History of (The Fraser govlívaro Indians, I:120 musiciani ernment), A:826 Head tax Jazz (The golden age), 1:75 Haydn, Joseph (Austrian composer). Poll tax, P:654 Hawkins, Sir John [English sea captain], Taxation (History), T:70 Head, Bessle (South African writer), Beethoven, Ludwig van (Beethoven's Drake, Sir Francis, D:280 life), B:194 14:93 Galleon, G:15 Classical music (The classical period), Headache, H:93 Spanish Armada (The two fleets), Ci-60 Allergy, A:273 Hayes, Helen [American actress], H:91 Whiplash, W:228 Hawks, Howard (American film direcwith portrait Headdress tor]. H:87 Egypt, Ancient (Food, clothing, and Film industry (Best performance by an Hawksbill turtle actress), F:97; (Best performance shelter), E:122 Turtle (Sea turtles), T:473: (Turtles and Indian, American picture on, 1:146 by an actress in a supporting role) human beings) T:475; picture on See also Hairdressing; Hat F-97 T:472 Hayes, Rutherford Birchard [U.S. pres-Headhunter, H:94 Hawkshead [England] ident), H:91 Headline Letter writing (Improving your letters) Cumbria (Places to visit), Cl:496 Hayman Island [Australia], H:91 with Hawksmoor, Nicholas (English architect), H:87 with picture Haynes, Elwood [American inventor], Headphones, H:94 with picture Hawkweed, H:87 with picture High-fidelity system, H:197 H:91 Hawthorn, H:88 with picture Hazard Headwater River (The source of a river), R:289 Hawthorne, Nathaniel (American au-Nuclear energy (Hazards and safethorl, H:88 with portrait guards), N:326 with picture Healey-Kay, Sydney Francis Patrick American literature (The romance), Hazard of New Fortunes, A book by A:314 with portrait Howells! Chippendali Novel (The United States), N:313 American literature (Realists), A:315 See Dolin, Sir Anton Healey, Denis [British political leader] Romanticism (Romanticism in litera-Howells, William Dean, H:335 ture). R:360 Hazardous waste H:94 Hawthorne [book by James] Environmental pollution (Hazardous Healey, Lord American literature (Mark Twain and waste), E:304 See Healey, Denis Henry James), A:316 Hazardous wastes, H:91 Australian Aborigines (Magic and Ab

Engineering (Environmental engineer-

ing), E:256 with picture Environmental pollution (Water pollu-

tion), E:303

Greenpeace, G:363

Healing

original doctors), A:838

See also list of Related Articles with

Health, H:94 with pictures

the Health article

Air pollution (Effects of air pollution). Rangladesh, B:85 Colonial life in America. Ci:182 Food (Government regulations), F:300 **Health and Morals of Apprentices** Act 1802 Factory acts, F:5 Health and Safety at Work Act 1974 Factory acts. F:5 Health food Food (Recent developments), F:302 Health for all by the year 2000 Rangladesh, B:85 Medicine (Health for All). M:310 Health hazards Health, H:96 Health Insurance Health Insurance, National, H:97 Insurance (Private health insurance), Medicine (Organizing health care), Health Insurance, National, H:97 Health resort Bath (Medical bathing), B:150 **HEAO** (satellite) Heard Island (Australia), H:97 Animal, A:400 with picture Audiology, A:738 Blrd, B:352 Deafness, D:55 Dog (Senses), D:224 Ear (The sense of hearing), E:9 Fish, F:171 Hearing aid, H:97 Insect (The senses of Insects), 1:252 Mammal, M:129 Mastold, M:251 Quota International, Q:31 Reptile (Sense organs), R:232 Senses, S:255 Sound (Controlling sound), So:52 Tinnitus, T:260 Hearing aid, H:97 with pictures Hearing dog Dog, Guide, D:240 Hearing Impairment Deafness, D:55 Hearing loss

Satellite, Artificial (Important satellites), Deafness, D:55 Ear (Disorders of the ear), E:11 Hearing Secret Harmonies (book by Powell] Powell, Anthony, P:731 Hearn, Lafcadio [American author], H:98 American literature ("Innocents abroad"), A:315 Hearne, Samuel English exploreri, Arctic (Arctic exploration), A:544 Exploration (Crossing North America), E:424 Great Slave Lake, G:326

Hoarsay flawl Evidence (Rules) F:405 Hoarea Euperal customs F:484 Hearst, William Randolph | American publisher!, H:98 Welles, Orson, W:145 Heart [anatomy], H:99 with pictures Arrhythmia, A:599 Artery, A:605 Artificial heart. A:610 with picture Blood pressure, B:402 Blood (What blood does in the body). R-394 Blue baby, B:405 Cardiology, C:196 Circulatory system, Cl:6 with pictures Death (Defining death), D:58 Flectrocardiograph, E:173 Frog (The body of a frog), F:464 with diagram Human body, H:356; (Organs and organ systems) H:351 with dia-Insect (Circulatory system), I:250 with diagram Life (Tissues, organs, and organ systems), L:248 Marfan syndrome, M:203 Muscle (Cardiac muscle), M:715; diagram on M:713 Space exploration (Microgravity), So:135 Tachycardia, T:4 Taussig, Helen Brooke, T:68 Heart attack eases). D:193 First aid. F:147 H:104 (Heart attack). H:2 Heart disease Beta-blocker, B:262

Coronary thrombosis, Cl:362 Disease (Chronic, degenerative dis-Heart, H:99; 106 with picture and diagrams; Coronary artery disease;

Heart (Heart terms), H:102

Cholesterol (Cholesterol and heart dis-

ease), C:479 Drug (Drugs that affect the heart and

blood vessels), D:312 Fat (Fats and disease), F:33

Heart, H:99; (table) H:102; (Coronary artery disease) H:104

Nutrition, N:367 Rheumatic fever, R:251

Heart failure Heart, H:110; (table) H:102; (Diagnosis and treatment) H:106; (Valvular disease) H:108

Myocarditis, M:749 Heart-leaf philodendron Philodendron, P:419

Heart-lung machine Heart (Treatment), H:105; (Development of heart surgery) H:112

Heart murmur Heart (Birth defects), H:108 Rheumatic fever (Causes and symptoms), R:251

Heart of Midlothian. The book by Scott Scott, Sir Walter. S:174

Heart of Spring (book by Neilson) Australia, Literature of (Other poetry),

Heart of the West [book by Henry] Henry, O., H:154

Heart rate

Heart (Regulating the heart rate), H:103 Heart rhythm

Heart (Abnormal heart rhythms), H:109 Heart surgery

Barratt-Boyes, Sir Brian, B:118 Medicine (The medical revolution). M-317

Heart transplant

Barnard, Christiaan Neethling, B:114 Heart (Heart failure), H:110 with picture: (The first heart transplants) H-113

Medicine (The medical revolution). M:317

Heartblock Heart (Abnormal heart rhythms), H:109

"Heartbreak Hotel" [song] Preslev, Elvis, P:770

Hearthurn Indigestion, I:179

Hearth group

Tasmanian Abortgines (Social organization). T:63 Hearth tax

Taxation (History), T:70 Heartwood [botany]

Sap (How sap moves), 5:85 Tree (How trunks and branches grow

thicker). T:379 with picture Heat, H:115 with pictures

See also list of Related Articles Blood (Distributing body heat), B:397 Decomposition, D:72

Electricity (Effects of electricity), E:170 with picture

Laser (Heating), L:71

Light, L:256; (How light is produced) L:257

Matter, M:263

Physics, P:473; (Developments in the 1800's) P:476

Thermography, T:215 with picture Thermos flask, T:217 with diagram Water (The properties of water), W:81

Heat-conducting glass

Glass (Kinds of glass), G:190 Heat control

Insulation, 1:269 with picture Heat cramp

Cramp, Ci:414

Heat energy

Heat picture on, H:117; (Changing heat into motion) H:120

Heat engine

Engine, **E:253** Heat (Changing heat Into motion),

Thermodynamics, T:214 **Heat equator**

Mythology picture on, M:752

Isotherm 1:426 Ninyana N:221 mentl H-131 Hehrides. The [music by Mendelssohn] Heat exchanger Paradise P:160 Mendelssohn, Felix (His life), M:346 Nuclear reactor (The coolant), N:334 Religion, R:196 Hebrides lislandsl. H:131 with mans Petroleum (Refinery conservation). Roman Catholic Church II ife after P:351 death), R:336 Boswell, James, B:478 Heat exhaustion Tweed. T:479 Valhalla, V:302 First aid. F:147 Heaven's My Destination | work by Hebron (lordan), H:131 Sunstroke, So:427 Wilder Cities of refuge, Ci:14 Heat flow Wilder, Thornton Niven, W:250 Hecate [Greek mythology], H:131 Hecht. Ben (American playwright). Insulation (Insulation for heat flow Heaves (disease), H:129 control). 1:269 Heaviside, Oliver (English mathematical 660000 Heat of adsorption physicist), H:129 Hecla (ship) Absorption and adsorption (Adsorp-Heavy crude Parry, Sir William, P:202 tion), A:16 Petroleum (The uses of petroleum). Hectare Heat of fusion P-336 Metric system (Surface measure-Freezing point, F:439 Heavy horse ments). M:386 Heat (Changes in state) H:120 Horse, H:289 Hector [Greek mythology], H:132 Heat of vaporization [physics] Heavy hydrogen Achilles, A:23 Heat (Changes in state), H:120 Deuterium, D:142 Iliad, 1:30 Steam. So:307 Hydrogen (Properties), H:404 Priam, P:774 Heat pipe, H:122 Isotope, I:427 Trojan War (The siege of Troy), Tx12 Heat prostration Nuclear energy (Problems of control-Hecuba (Greek mythology), H:132 See Heat exhaustion ling fusion). N:322 Paris. P:174 Heat pump, H:123 Heavy metal fluoride glass Hecuba (play by Euripides) Heating, H:127 with picture Glass (Kinds of glass), G:190 Euripides, E:354 Heat rash [disorder] Heavy metal rock Hedda Gabler play by Ibsen Prickly heat, P:775 Rock music (Rock goes pop), R:313 Drama (Modern drama: Ibsento Heat ray Heavy metals World War II), D:298 Infrared rays, I:233 Environmental pollution (Hazardous Ibsen, Henrik, 1:4 Heat-resistant coating wastel, F:305 Heddle Weaving (Weaving on a loom), W:13 Paint (Industrial paints), P:24 Heavy water, H:129 Hederman, Anthony James [irish gov Heat-resistant glass Deuterium (Properties), D:142 Glass (Kinds of glass), G:190 Nuclear energy (Power reactors), ernment officiall, H:132 Heat shield, H:123 Hedge apple Space exploration (Space exploration Water (The chemistry of water), W:81 Osage orange, 0:508 terms). So:130: (Returning to the Hebe [Greek mythology], H:129 Hedge, H:132 earth) So:135; (Protection against Nectar, N:66 Hedge bindweed the dangers of space) So:135 Hebe [plant], H:129 Bindweed, B:296 with picture Heat transfer Hebrew alphabet **Hedge schools** Heating, H:125 Ireland, History of picture on, 1:374 Alphabet, A:284 Refrigeration, R:184 Hedge sparrow, H:132 Hebrew Bible Hedgehog (animal), H:132 with picture Heat transfer printing Bible, B:270 (Books of the Old Testa-Textile (Finishing the fabric), T:173 ment) B:271; (The Apocrypha) Hedgehog tenrec Heath [habitat], H:123 Tenrec. T:151 with picture Scotland (The Highlands), S:163 Judaism, J:154; (The Bible) J:155 Hedging (craft) Heath hen Old Testament, 0:427 Country crafts, Ci:394 Prairie chicken, P738 Hebrew calendar Hedging [economics] Commodity exchange (Futures mar-Heath Robinson, William Calendar (The Calendar today), C:34 Robinson, William Heath, R:305 with Hebrew language and literature, ket), Cl:219 picture Hedonism, H:133 Heath, Sir Edward (British political See also list of Related Articles Omar Khayyam, 0:450 Philosophy (table), P:421; (Stoic philos leader!, H:124 with portrait Israel (Language), £431 ophy and Epicureanism) P:424 Thatcher, Margaret (Political career), Jerusalem, J:87 Heel-and-toe method Yiddish language and literature, Y:453 United Kingdom, History of the (The **Hebrew names** Walking, W:23 United Kingdom todayl, U:153 Name, N:9 Heel fly [insect] Heath, Sir Robert Hebrews [people] Bot fly, B:478 Bahamas (History), B:30 Cattle (Diseases), C:276 Clothing (The Hebrews), Cl:99 Heather, H:124 Education (Other Middle Eastern edu-Warble fly, W:37 Heating, H:125 with pictures cation). E:89 Heemskerck (ship) Tasman, Abel Janszoon (The first vo) See also list of Related Articles Jews, J:112; (Early days) J:112 age), T:49; (Life on Tasman's ships) Solar energy (Solar heating), So:24 Law (Early developments in the East), with picture Heenan, John [American boxer] Heatstroke Palestine (Early history and Hebrew Boxing (From bare knuckles to gloves) First aid, F:147 settlement), P:102 Sunstroke, So:427 Tribe, T:398 B:498 Hegel, G. W. F. (German philosophed Heaven (religion), H:128 World, History of the (Middle Eastern Elysium, E:225 Civilizations), W:336 H:133 Bradley, Francis Herbert, B:506

Hebrews, Epistle to the New Testa-

Heliopolis (ancient Egypt) Civilization (Why civilizations rise and Heimlich manoeuvre First aid (Choking), F:145 Cleonatra's Needles, Cl:74 fall) Ci:49 Phoenix P:430 Heine, Heinrich [German author], H:135 Existentialism. E:415 German literature (German literature Re. R:149 Idealism, I:26 from 1830-1890), G:109 Materialism, M:254 Philosophy (Philosophy in the 1800's). Heinkel He-178 [aircraft] let propulsion (Development of let P:426 propulsion). I:106 with picture Political science (Liberalism), P:654 Heinlein, Robert A. [American author]. Schelling, Friedrich Wilhelm Joseph Rhodes, R:256 H:135 von. S:124 Selene, S:244 Science fiction,, S:152 Hegira (Arab history). H:133 Calendar (The Islamic calendar). C:35 Slang (Sources of slang), S:479 Heinrich von Ofterdingen book by Islam (Muhammad began preaching), Movaliel 6413 Novalis, N:310 Muhammad, M:686 So:412 Heinze, Sir Bernard [Australian con-Muslims (The prophet), M:743 Religion (Islam), R:205 ductori. H:135 Heir Ilawi, H:135 Hel tiki ljade pendanti See also list of Related Articles Sculpture (pacific Islands sculpture), Heisenberg, Werner (German physi-5:204 cistl. H:135 Helan period [Japanese history] Physics (Quantum theory), P:477 Japanese literature (The Heian period), Quantum mechanics (History), Q:6 Heisman Memorial Trophy, H:136 Sculpture (lapan), S:201 Edition Helaz fregion, Saudi Arabial Heldegger, Martin [German philoso-Ibn Saud. I:3 pherl. H:133 Saudi Arabia (The Western Highlands), Phenomenology, P:361 Heldelberg [Germany], H:134 S:107 with map Germany picture on, G:120 Heiira Heldelberg Catechism [religion] See Hegira Limbo, L:278 Presbyterians, P:763 Heke, Hone [Maori chief] Heidelberg man [anthropology], H:134 New Zealand, History of (Heke's Re-P-198 Heidelberg School (Australia), H:134 volt), N:169 Waitangi, Treaty of, W:7 Australia, Art and architecture of (Im-Hekla (volcano), H:136 pressionist painters), A:782 with Iceland (The inland plateau), 1:22 picture Roberts, Tom, R:301 Heldentenor Heidelberg, University of IGermanyl, Opera (The singers), 0:458 Helen of Troy [Greek mythology], H:136 Heiden, Eric Cassandra, C:228 Ice skating (History), 1:16 Mythology (Greek heroes), M:757 Olympic Games (The modern games), Troian War (The beginning of the war), 0:436 T:411: (The siege of Troy) T:412 Heidenstam, Verner von (Swedish Troy (the legendary Troy), T:421 writer Helena, Saint Nobel Prizes (Literature), N:232 Crypt, Ci:468 Sweden (Literature), So:467 Helena (play by Euripides) Heldi book by Spyril Euripides, E:354 Spyri, Johanna, So:244 Heigoland lisland, North Seal, H:136 Heldi (book by Spyri) with map Switzerland (Arts), So:495 Hellarc welding Helium (Uses), H:143 Cattle, C:270; (Breeding) B:275 Helical gear Ranching (Life on a cattle ranch), R:133 Gear (Types of gear), G:68 Helfetz, Jascha Lithuanian-born violin-Helichrysum, H:136 Ist], H:134 Helicopter, H:137 with pictures lleight and weight tables See also list of Related Articles ture Baby, **B:8** Surf lifesaving (Rescue helicopter), Larva, L:67 Child, C:407 So:434 Height (geometry) Transportation (Air transportation), H:145 Cylinder, Ci:511 T:349 Triangle (Perimeter and area), T:397 Heliocentric theory Helibron, Dame Rose | British barris-Astronomy (The beginnings of modern ter], H:135 astronomy), A:697

Heliograph (communications), H:142

Niépce, Joseph Nicéphore, N:202

Communications (in the early 1800's),

Hellbron, Sir Ian Morris (British chem-

Iceland (The inland plateau), 1:22

Volcano picture on, V:420

Ist], H:135

Helmaly lisland, Iceland

Thurmose III. T:234 Helios (Greek mythology), H:143 Mythology (Mythical symbols), M:752; (Müller's theory) M:764 Phaëthon, P:356 Seven Wonders of the Ancient World (The Colossus of Rhodes), S:282 with nicture Sun (Mythology and sun worship), Helios (space probe) Space exploration (Solar probes), Heliotrope, H:143 with picture Helium, H:143 with pictures Airship (How airships flv), A:217 Balloon (Gas balloon), B:60 Element, Chemical (Periodic table), ion picture on, 1:325 Laser (Gas lasers), L:73 Ramsay, Sir William, R:132 Hell (religion), H:144 Divine Comedy, D:205 Religion (A doctrine of salvation). Helladic culture [Greek history] Aegean civilization (The Mycenaean culture). A:67 Hellebore, H:144 Hellenes (ancient people) Deucalion, D:142 See also Greece, Ancient Hellenistic Age lancient Greecel, H:144 Alexander the Great, A:243 Greece, Ancient, G:354 Greek literature, G:358 lews (The Hellenistic period), J:113 Middle East (Early civilization), M:455 Hellenistic sculpture Sculpture, S:206 with picture Heller, Joseph American authorl, H:145 American literature (Fiction and other prose), A:320 Novel (After World War II), N:314 Hellespont, H:145 Dardanelles, D:33 Hero and Leander, H:180 Hellgrammite (insect), H:145 with pic-Hellman, Lillian (American playwright), American literature (Drama), A:318 Hello. Dolly! [work by Wilder] Wilder, Thornton Niven, W:250 Hell's Angels (film) Science (The rebirth of science), S:145 Hughes, Howard Robard, H:342 Helluland Ericson, Leif, E:318 Hellyer, Henry (Australian explorer),

H:145

Hemisphere [geometry]

Sphere, So:214

Henrietta Maria [wife of Charles II Helmet, H:145 with pictures Hemlock and After [work by Wilson] Civil War, English (Religious caused Armour (During the Middle Ages). Wilson, Sir Angus, W:261 A:582 with picture Hemlock [herb]. H:149 with picture Ci:43 Maryland (History), M:239 Diving, Underwater (Surface-supplied Hemlock [tree], H:149 Richelieu, Cardinal (Rise to power in diving), D:208 with picture Hemp [plant], H:149 with picture Fire brigade (Protective clothing), F:131 Fibre (Natural fibres), F:67 France), R:270 Henry [book by Henry] with picture Hashish, H:74 Heraldry (Elements of a coat of arms). Marijuana, M:206 with pictures Henry, O., H:154 H:160 Philippines (Agriculture), P:385; pic-Henry (unit of measure), H:154 Helmet bird ture on P:382 Henry, Joseph, H:154 Bird picture on. B:326 Rope (Natural-fibre rope), R:394 Inductance, I:205 Helmeted quineafowl Sisal, S:456 Henry I [king of England], H:151 Bird picture on, B:327 Hen England (Struggles for power) F:278 Helmholtz, Hermann Ludwig Ferdi-Chicken, C:395 Stephen, So:316 nand von [German physicist], H:146 Pheasant (Appearance and habits), Henry I (king of France), H:153 Colour (The three-component theory), P-350 Henry I [king of Germany], H:153 Ci-201 Henbane [plant], H:150 Germany (The breakup of Charle-Heat (Heat and energy), H:122 Hendecagon [geometry] magne's empire). G:130 Joule, James Prescott, 1:149 Polygon, P:661 Otto I, The Great, O:519 Ophthalmoscope, 0:476 Henderson, Arthur (British statesman). Henry II (king of England), H:151 Physics (Developments in the 1800's), 0.450 Becket, Saint Thomas à. B:178 P:476 Nobel Prizes (Peace), N:233 Constitutions of Clarendon, Ck309 Henderson, Fletcher (American jazz Psychology (Psychology becomes a Eleanor of Aquitaine, E:137 science). P:829 England (Struggles for power), E:275 musicianl, H:150 Ireland, History of (The Normans in Sound (The wave theory). So:53 Henderson, Robert [gold prospector] Helmont, Jan Baptista van Belgian Klondike, K:296 Ireland), I:369 chemistl Hendon Plantagenet, P:573 Botany (The development of modern Barnet R:114 Henry II [king of France], H:153 with botany), B:480 Hendrik Verwoerd Dam portrait Gas [fuel] (First uses of manufactured Dam (Some important dams), D:14 Catherine de Médicis, C:266 gas), G:56 France (A period of wars), F:413 Eastern Cape (Land), E:45 Gas [matter] (History), G:59 Hendrix, Jimi American musician). Paré, Ambroise, P:173 Héloïse Henry II [king of Germany], H:153 H:150 with portrait Abelard, Peter, A:9 Henry III (king of England), H:151 Henequen [plant], H:150 Helpmann, Sir Robert | Australian actor Montfort, Simon de, M:578 Mexico (The Yucatán Peninsula), M:412 and danceri, H:146 Rope (Natural-fibre rope), R:394 Plantagenet, P:573 Ballet (Ballet in Europe), B:57 Westminster Abbey, W:195 Henge [archaeology] Helsinki Accords, H:147 Henry III (king of France), H:153 with Megalithic monuments, M:324 Europe (Toward European unity), E:391 Hengest and Horsa [Jutish leaders]. portrait Union of Soviet Socialist Republics Catherine de Médicis, C:266 H:151 Huguenots (The massacre), H:344 (Détente), U:35 Kent (History), K:221 Helsinki [Finland], H:147 with pictures Henry III iking of Germanyl, H:153 Henie, Sonja [Norwegian skater], H:151 Henry III and His Court book by Finland, F:113; (Ancestry and popula-Olympic Games (The modern games), tion) F:116; with picture O:435 picture on Dumasi **Heisinki Final Act** Dumas, Alexandre, père, D:343 Henlein, Peter [German locksmith] See Helsinki Accords Henry IV iplay by Shakespeare Watch (History), W:67 Helvetia Drama picture on, D:284 Henley, William Ernest [British poet], See Switzerland H:151 Falstaff, F:18 Helvetians (people), H:148 Henley-on-Thames (England), H:151 Henry V:, H:152 Shakespeare, William, S:313 with pic Switzerland (Early days), So:499 Henley-on-Todd [Australia] Hemel Hempstead [England], H:148 Todd [river], T:273 Henry IV [Holy Roman emperor], H:153 Hemicellulose **Henley Royal Regatta** Germany (The Holy Roman Empire), Wood (The composition of wood). Henley-on-Thames, H:151 W:300 Rowing (History), R:415 Hemingway, Ernest [American author], Gregory VII, Saint, G:365 Henna [dye], H:151 H-14/1 Dye (Kinds of dyes), D:362 Urban II, U:277 Henry IV [king of England], H:152 American literature, The lost genera-Hennepin Louis [Belgian explorer], England (The Hundred Years Warl, tion, A:317; portrait on A:316 Novel (New directions in the novel). Exploration (table), E:424 E:276 N:313 Hennin Lancaster, L:42 Hemiptera Clothing (The Renaissance), Ci:102 Lollards, L:363 Bug. B:625 with picture Richard II. R:267 Henry IV Iking of Francel, H:153 with Insect picture on, I:243; (table) I:262 Hat. H:75 Hemisphere [architecture] Henotheism portrait Bourbon (in France), B:488 Vault, V:320 Religion (Belief in a deity), R:197 Hemisphere (geography), H:148 with Nantes, Edict of, N:16 Henri, Robert [American artist] Henry V Iplay by Shakespeare pictures Ashcan School, A:620

Lawson, Ernest, L:121

Prendergast, Maurice Brazil, P:762

Shakespeare, William, S:314; (Rhetorid

C-223 Henry V (Holy Roman emperor). H:154 Paschal II. P:209 Henry V (king of England), H:152 England (The Hundred Years' War). Hundred Years' War, H:372 Lancaster, L:42 Henry VI [play by Shakespeare] Shakespeare, William, S:310 Henry VI [Holy Roman emperor], H:154 Henry VI (king of England), H:152 England (The Hundred Years' War). E:276: (Wars of the Roses) E:277 Lancaster, 1:42 Wars of the Roses, W:41 Warwick, Earl of (English political leaderl, W:47 York, Y:456 Henry VII Canada, History of (Early European exploration), C:97 Henry VII [Holy Roman emperor], H:154 Henry VII [king of England], H:152 Cabot, John, C:7 England (Wars of the Roses), E:277 Exploration (Exploring the New World), E:421 Renaissance (Political background), R:219 Richard III. R:268 Tudor, House of, T:436 Wales (Glyn Dŵr's Rebellion), W:18 Warbeck, Perkin, W:37 Wars of the Roses, W:41 Westminster Abbey, W:195 Wolsey, Thomas Cardinal, W:290 Henry VIII |play by Shakespeare| Fletcher, John, F:226 Shakespeare, William, S:321; (His last years) S:303; (The fourth period) S:320 Henry VIII (king of England), H:152 Boleyn, Anne, B:424 Catherine of Aragon, C:266 Church of England (History), C:503 Cranmer, Thomas, Ci:418 Cromwell, Thomas, Ci:451 Edward VI, E:94 England (The English Reformation), E:277 Ireland, History of (The Tudor conquest), 1:370 Littmer, Hugh, L:75 More, Saint Thomas, M:604 Northern Ireland (Protestant settlement), N:274 Protestantism (The conservative reform movements), P:816 Reformation (in England), R:182 Supremacy, Acts of (The Act of Supremacy of 1534), So:430 Henry, Duke of Guise See Henry III [king of France]

Henry, John (legendary figure), H:154

Electric generator (Basic principles),

Henry, Joseph [American physicist],

H:154

E:146

Flectric motor (History), E:155 Electricity (Electromagnetism), E172 Flectromagnet, E:176 Electromagnetism, E:177 tion). E:250 Faraday, Michael, F:26 as inventor), M:619 P:476 Radio (Early development), R:80 Henry, O. [American author], H:154 Short story, \$:393 Henry, Patrick [American statesman]. H:155 with picture Abolition movement (In the United States), A:13 Henry, Prince Charles, Prince, C:353 Elizabeth II (The royal family), E:214 Royal Family of the United Kingdom picture on R:423 ficer Fingerprinting (History), F:112 Henry Esmond [book by Thackeray] career), T:177 Henry lames (book by West) West, Dame Rebecca, W:156 Henry of Navarre See Henry IV [king of France] Henry of Portugal See Henry the Navigator Henry the Lion Iduke of Saxony Brunswick, B:601 Munich (History), M:702 Henry the Navigator [Portuguese princel, H:155 F:420 Portugal (The age of exploration), P:705 ture by Powersi Powers, Hiram, P:732 Henryson, Robert (Scottish poet) Henson, Jim [American puppeteer] Puppet (Hand puppets), P:863

Peary, Robert Edwin (North Pole jour-

Aeroplane (Powered flight), A:77 with

Henson, William S. [British inventor]

Henty, Charles [Australian pioneer]

Henty, Edward [Australian pioneer]

nevs). P:237

picture

Henty, H:156

Henty, H:156

Energy supply (The industrial revolu-Invention (The Industrial Revolution). Morse, Samuel Finley Breese (Morse oneer Physics (Developments in the 1800's), Bile. B:292 (The new Elizabethan Age), R:426; Henry, Sir Edward R. British police of-T7hackeray, William Makepeace (Later Exploration (Reaching the tip of Africa), Henry Wadsworth Longfellow (sculp-Scottish literature (1300-1500), S:176 Heptane Henson, Matthew Alexander (American explorer], H:156 with portrait Arctic Ocean (Exploration of the Arctic E:274 Ocean), A:548 Heptathlon Exploration (table), E:427; (Polar explo-Athletics, A:712 ration) E:427

Henty, Francis [Australian pioneer] Henty, H:156 Henty, G. A. British authorl, H:156 Henty, James (Australian pioneer) Henty, H:156 Henty, Jane [Australian pioneer] Henty, H:156 Henty, John [Australian pioneer] Henty, H:156 Henty, Stephen George | Australian pi-Henty, H:156 Henty, Thomas (Australian pioneer) Henty, H:156 Henty, William [Australian pioneer] Henty, H:156 Henze, Hans Werner [German composerl. H:156 Henatic artery lanatomy Liver (Structure of the liver). L:333 with diagram Hepatic duct [anatomy] Gall bladder, G:15 with diagram Liver (Structure of the liver), L:333 Hepatica (plant), H:156 Hepatitis (disease), H:157 Cirrhosis, Ci:14 Liver, L:335 Hepatocellular jaundice laundice, J:67 **Hepburn Romanization** lapanese language, J:62 Hepburn, Katherine (American actress), H:157 with portrait Film industry (Best performance by an actress), F:97; (Films in the 1930's) F:102 with picture Hephaestus [Greek mythology], H:157 Aphrodite, A:471 Mythology (table), M:758 Pandora, P:129 Vulcan, V:429 Hephaestus, Temple of [Athens] Architecture picture on, A:521 Hepplewhite, George English furniture maker), H:157 Heptagon [geometry], H:158 Heptameter [poetry] Metre, M:384 Poetry (table), P:611 Natural gas liquids, N:46 Petrol (Petrol octane ratings), P:329 Heptarchy (English history), H:158 Anglo-Saxons, A:371 with map England (The Anglo-Saxon period),

Pentathlon, P:267

Argus, A:565

Hercules, H:163

See also Juno

Hesperides, H:187

lo, I:324 with picture

Hepworth, Dame Barbara (English

sculptor), H:158 with picture

Hera [Greek mythology], H:158

See Bosnia-Herzegovina Herculaneum (ancient Rome), H:163

Brain (Genetic disorders), R-517 with picture Mythology (table), M:758 Architecture (Neoclassical architec-Dislocation, D:199 Zeus. Z:492 Evolution (Causes of evolutionary ture). A:529 Heracles [play by Euripides] Library (Rome), L:230 change), E:407 Euripides, E:354 Hercules [constellation]. H:163 Genetics, G:81 Heraclides of Pontus [Greek astrono-Growth (How growth takes place). Hercules and Antaeus loainting by Pol-G:387: (Factors affecting human lainolol Astronomy (Greek astronomy), A:697 Pollaiuolo, Antonio Del, P:655 growth) G:388 Heraclitus [Greek philosopher], H:158 Intelligence (Where intelligence Hercules beetle. H:164 with picture Pre-Socratic philosophy (The first precomes from), 1:276 Beetle picture on. B:196 Socratics), P:770 Hercules (Greek mythology), H:163 Life (Adaptation), L:246 Heraid (European history), H:158 Plant (Hereditary factors), P:562 Atlas. A:723 Herald of Free Enterprise [ship] Races, Human (How human popula-Cerherus, C:327 Shipwreck (table), S:387 tions develop and change, R47 Charon, C:354 Heraldic achievement Rh factor, R:249 Cornucopia, Cl:358 Heraldry (Elements of a coat of arms), Weight control, W:134 Hehe. H:129 Harrison Zoology (What zoologists study), Hydra [sement], H:397 Heraldry, H:158 with pictures Mythology (Greek divinities), M:758 7:508 Herat (Afghanistan) Hereford and Worcester (England), Prometheus, P:799 Afghanistan, A:110 H:176 with map and pictures Renaissance picture on, R:219 Herb [plant], H:160 with pictures See also list of Related Articles Herd See also list of Related Articles Arms picture on, A:585 Whale (Group life), W:210 Gardening, G:35 Hereford (city, England), H:176 Herder, Johann Gottfried von [Ger-Herb Robert [plant] Hereford cattle man writerl, H:164 Geranium, G:104 Cattle (Hereford), C:273 with picture German literature (The Storm and Herbaceous stem Stress movement, G:108 Herero [people] Perennial, P:281 Namibia (People), N:12 with picture Plant (Stems), P:554 Goethe, Johann Wolfgang von (Early Heresy (religion), H:178 Stem, So:315 with pictures vears), G:227 Inquisition, I:239 Herdina doa Vegetable, V:321 Pope (The early Middle Ages), P:676 Dog. D:231 with pictures Herbarium, H:161 Roman Catholic Church (The early Canberra (Places to visit). C:116 Pembroke Welsh corgi. P:250 church), R:338 Herbart, Johann Friedrich (German Here I Stand (book by Robeson) Hereward the Wake English land Robeson, Paul, R:301 philosopherl, H:161 Herbert, Xavier [Australian writer] Here Lies (work by Parker) owner], H:178 Hering, Ewald (German physiologist Australia, Literature of (Modern nov-Parker, Dorothy, P:187 Colour (The opponent colour theory), els). A:832 Hereafter Herbert H. Lehman and His Era [book Islam, 1:415 Ci:201 Herjuifsson, Blarni (Norse explored by Nevins Heredia, José María [Cuban author] Exploration (The Vikings), E:419 Nevins, Allan, N:106 Latin-American literature (The 1800's). Vikings (The Norwegian Vikings), Herbert, George (English poet), H:162 1-95 Herbert, Sir Alan Patrick [British au-Hereditary disease V:391 thor), H:161 with portrait Allergy (Hereditary factors), A:274 Horm See Channel Islands Herbert, Victor [American composer]. Alzheimer's disease, A:296 Herman, Sali [Australian artist], H:178 H:162 Anaemia (Excessive destruction of red Herman, Woody (American band-Musical comedy (The first musicals), blood cells), A:348 leader], H:178 M:739 Cancer (Inherited tendencies), C:121 Jazz (The swing era), J:76 with picture Herbert, Wally [British explorer] Disease (Congenital diseases), D:194 Hermann and Dorothea work by Got Peary, Robert Edwin (Dispute over Ear (Birth defects), E:12 Peary's claim), P:237 Eugenics, E:352 Goethe, Johann Wolfgang von, Gaza Herbert, Xavier [Australian author], Gene mapping, G:75 Hermaphrodite [animal], H:178 H:162 Haemophilia (How haemophilia is in-Herbicide, H:162 herited), H:5 with diagram Hermes [astronomy] Asteroid, A:678 Agent Orange, A:158 Muscular dystrophy, M:716 Hermes [Greek mythology], H:178 Agriculture, A:175 Races, Human (Susceptibility to ge-Argus, A:565 Cotton (Care during growth), Ci:385 netic diseases), R:48 Dry farming, D:327 Sickle cell disease, \$:410 with diagram lo, 1:324 See also Mercury [Roman mythology] Tay-Sachs disease, T:72 with diagram Pesticide, P:319 Mythology (table), M:758 Herbivore, H:163 Thalassaemia, T:185 Praxiteles picture on, P:740 Animal (Adaptations for eating), A:398 Hermes of Praxiteles [Greek statue] Hereditary Genius (book by Galton) Ecology (Energy flow), E:57 Eugenics, E:353 H:179 with picture Forest (The flow of energy), F:350 Hereditary peerage Mammal (What mammals eat), M:130 House of Lords, H:327 Olympia, 0:431 Praxiteles, P:740 with picture with diagram Nobility (In Great Britain), N:236 Parliament (The House of Lords), P:191 Hermetic school Ungulate, U:25 Quasimodo, Salvatore, Q:9 Peer of the realm, P: 243 Hermione (legendary figure), H:179 Herbs Heredity, H:165 with pictures See Herb Orestes, 0:493 See also list of Related Articles Hercegovina

Baby (Growth and development), B:6

Behaviour, B:202

Hermit, H:179

See also Asceticism; Monasticism

Hermit crab, H:179 with picture	D:321; (Table) D:322
Animal picture on, A:409	See also Drug addiction
Hermitage	Methadone, M:382 Morphine, M:617
Saint Petersburg (The city), \$:43; (Education and cultural life) \$:43	Opium, 0:476
Remandez, José (Argentinian poet)	Heron [bird], H:181 with pictures
Latin-American literature (The 1800's),	Bittern, B:371 with picture
L:95	Egret, E:99 with pictures
Hemández, José [Argentinian poet]	Heronry
Argentina (The arts), A:556	Heron (Habits), H:181
Hemani (drama by Hugo)	Heron's-bill [plant] Geranium, G:104
Drama (Romanticism), D:297 French literature (Romantic drama),	Héroult, Paul L. T. [French chemist]
F:448	Aluminium (Smelting the alumina),
Hugo, Victor Marie (Early life), H:343	A:292; (The growth of the alumi
Herndon, Hugh American aviator	ium industry) A:295
Aeroplane (Fliers of the golden age),	Heroult, Paul L. T. Héroult, Paul L. T.
A:81	[French chemist] Iron and steel (The birth of modern
Hemia (disorder), H:180 Hemia cerebri	steelmaking), 1:401
Hernia, H:180	Herpes simplex virus
Hero [Greek scientist]	Cold sore, Ci:159
Invention (Ancient Greece), I:315	Epstein-Barr virus, E:314
let propulsion, J:102; (Development of	Eye (Diseases of the cornea), E:442
jet propulsion) J:106	Herpes, Genital, H:182
Steam engine (History), So:308 Turbine (History), T:451	Herpes, Genital (virus), H:182 Herpesvirus, H:182
Hero and Leander [Greek mythology],	Herpetology (zoology), H:182
H:180	Herr Eugen Dühring's Revolution in
Hellespont, H:145	Science book by Engelsl
Hero and Leander [play by Marlowe]	Engels, Friedrich, E:253
Chapman, George, C:348	Herrenhausen Gardens
Marlowe, Christopher, M:215	Hanover (city, Germany), H:56 Herrera, Juan de [Spanish architect]
Herod Agrippa 1 [Palestinian ruler],	Architecture (Later Renaissance archi
lames the Greater, Saint, J:23	tecture), A:527
Herod Agrippa II (Palestinian ruler),	Herrera, Tomás (Panamanian política
H:180	leaderl, H:182
Herod Antipas [Palestinian ruler], Hk180	Herrick, Robert (English poet), H:182
Jesus Christ (The trial), J:100 John the Baptist, Saint, J:131	Herries Chronicles (book by Walpole Walpole, Sir Hugh Seymour, W:27
3410me, S:54	Herring [fish], H:182 with pictures
Herod the Great Palestinian ruleri,	Animal (Providing food), A:406
11160	Fish picture on, F:160
erusalem (Ancient times), J:93	Sardine, 5:89 with picture
lesus Christ (The Nativity), J:96 Masada, M:239	Herring gull
Samaria, S-61	Bird pictures on, B:348
Rerodotus [Greek historia-] Attaco	Guil, G:426 Herring Gull's World, The (book by
	Tinbergeni
"" " " Italian in the state of	Tinbergen, Nikolaas, T:260
	Herringbone gear
Indian Ocean, 1:169	Gear (Types of gear), G:68
Lake dwelling, L:22 Phoenicia (Decline), P:430 Post office (Assets)	Herrmann, Adelaide (British illusion):
	Magician (Illusions), M:48 Herschel, Caroline Lucretia (British a
Pyramids (The pyramids of Giza), P:873	tronomeri, H:183
Heroic Age	Herschel, Sir John Frederick William
Australia, History of (Land exploration	British astronomerl, H:183
and reform), A:808	Herschel, Sir William (British astrono
~~uplet 4'han-	mer], H:183
rable) Picit (Non-least-	Astronomy (The discovery of new planets), A:699
etry P:615	Infrared rays, £233
· UIIA Alaa	Uranus, U:276
Ovid Original Dy Ovid	Herschel, Sir William J. [British colo-
Heroin identification	nial administrator
Drug abuse (Abuse of illegal drugs),	Police laboratory (History), P:645
viouse of illegal drugs),	Hershey, Affred D. [American biologi

D:321: (Table) D:322 e also Drug addiction thadone. M:382 orphine, M:617 ium. 0:476 n [bird]. H:181 with pictures tern. B:371 with picture ret. E:99 with pictures nry ron (Habits), H:181 n's-bill [plant] ranium. G:104 ult. Paul L. T. |French chemist| iminium (Smelting the alumina). A:292; (The growth of the aluminium industry) A:295 ult, Paul L. T.Héroult, Paul L.T. French chemistl n and steel (The birth of modern steelmaking), 1:401 es simplex virus d sore. Ci:159 stein-Barr virus, E:314 (Diseases of the cornea), E:442 rpes, Genital, H:182 es. Genital (virus), H:182 esvirus, H:182 etology (zoology), H:182 Eugen Dühring's Revolution in Science (book by Engels) gels, Friedrich, E:253 enhausen Gardens nover (city, Germany), H:56 era, luan de [Spanish architect] chitecture (Later Renaissance architecture), A:527 era, Tomás (Panamanian política) eaderl, H:182 ick, Robert (English poet), H:182 cianl ies Chronicles (book by Walpole) alpole, Sir Hugh Seymour, W:27 ing [fish], H:182 with pictures imal (Providing food), A:406 h picture on, F:160 dine. S:89 with picture ina auli d pictures on, B:348 il. G:426 ring Gull's World, The (book by **Finbergen**l bergen, Nikolaas, T:260 ingbone gear ar (Types of gear), G:68 mann, Adelaide [British illusionist] agician (Illusions), M:48 chel, Caroline Lucretia [British asronomer], H:183 chel, Sir John Frederick William British astronomerl, H:183 chel, Sir William (British astronomer], H:183 tronomy (The discovery of new planets), A:699 rared rays, 1:233

Hershey, Alfred D. [American biologist]

Nobel Prizes (Physiology or medicine). Research (Collecting evidence), R:236 Herstmonceux Castle [England] Greenwich Meridian, G:364 Hertford (England) Hertfordshire (Places to visit), H:185 Hertfordshire [England], H:184 with picture and map See also list of Related Articles Arms picture on, A:585 North Hertfordshire, N:261 Hertsmere llocal government district, England), H:185 Hertz [unit of measure], H:186 Far (The sense of hearing), E:9 Flectric current (Direct and alternating current), E:143 Electric generator (A simple generator). E:146 Kilohertz, K:250 Light (Measuring light), L:263 Sound (table), So:47; (Frequency and pitch) So:48 with diagram Hertz, Gustav (German physicist), H:186 Hertz, Heinrich Rudolph (German physicistl, H:186 Communication (The beginning of the electronic age), Cl:233 Electricity (Electromagnetism), E:172 Electromagnetic waves (History), E:177 Electromagnetism, E:177 Hertz, H:186 Physics (Developments in the 1800's), P1476 Radar (The development of radar), P:61 Radio (Early development), R:83 Hertzog , J. B. M. South African politi-National Party, N:43 Hertzog, Barry [South African political leaderl, H:186 Smuts, Jan Christiaan, S:503 South Africa, History of (The Union of South Africa), So:83 South Africa (The National Party), So:82 Hertzprung, Ejnar [Danish astronomer] Star (The Hetzsprung-Russell (H-R) diagram), So:290 Hertzsprung-Russell (H-R) diagram Star, So:290 with diagram; (Main ence stars) So:284 Herzberg, Gerhard [Canadian physicist], H:186 Herzegovina See Bosnia-Herzegovina Herzen, Alexander Ivanovich iRussian journalistl, H:186 Herzl, Theodor [Austrian writer], H:186 Jews (The Zionist movement), J:115 Zionism (Movement to Palestine), Z:499Herzog, Émile Maurois, André, M:271 Herzog book by Bellow American literature (Jewish writers),

A:319

Bacteria (How bacteria obtain food).

B-21 Heterotropia (disorder) Strabismus, So:342 Heureaux, Ulises (Dominican dictator) Dominican Republic (History), D:261 Heves [tree] Latex, L:75 Rubber (Natural rubber), R:432: (The rubber tree! R:432 Hevelius, Johann [Polish astronomer] Moon (table), M:595 Heveningham Hall [England] Suffolk (Places to visit), So:389 Hevesy, Georg von [Danish chemist], **FEYRO** Hafnium, H:6 Nobel Prizes (Chemistry), N:229 Hewish, Anthony British physicist Nobel Prizes (Physics), N:227 Pulsar, P:852 Hewson, John, H:188 Hexadecimal arithmetic Numeration systems, N:347 Hexagon [geometry], H:188 with diaaram Hexagonal crystal Calcite, C:23 Crystal (Classifying crystals), Ci:469 with picture Hexagonal system Calcite, C:23 Crystal (Classifying crystals), Cl:469 with picture Hexahedron [geometry], H:188 Hexameter Greek literature (Elegiac poetry), G:357 Metre, M:384 Poetry (table), P:611 Hexane Natural gas liquids, N:46 Hexogen RDX. R:149 Hexosaminidase A Tay-Sachs disease, T:72 Heydrich, Reinhard [Nazi leader], HOUR Lidice. L:241 Heyer, Georgette [British author], H:188 Heyerdahl, Thor [Norwegian adventurer], H:189 with portrait Raft, R:95 with picture Heysen Trail (Australia), H:189 with maps Heysen, Sir Hans [Australian artist], HE189 Heyward, DuBose [American librettist] Opera (Porgy and Bess), 0:472 Heywood, Thomas (English playwrightl, H:189 Hezekiah (Biblical figure), H:189 Hf [symbol] Hafnium, H:6 Hg [symbol] Мегсцгу, **М:360** High-fidelity system, H:196 Song of Hiawatha, So:41 Longfellow, Henry Wadsworth, L:378

Hlawatha Imusic by Coleridge-Taylor Coleridge-Taylor, Samuel, Ci:162 Hibernation, H:189 with picture Animal (Animals of the polar regions) A:392 Bat, B:147 Butterfly, B:690 Frog (The life of a frog), F:466 Insect. 1:258 Lizard (Where lizards live), L:339 Mammal, M:135 Raccoon (The life of a raccoon). Run Reptile, R:233 Temperature, Body (Warm-blooded animals), T:137 Hibernia (former name, (reland), H:190 Hibiscus, H:190 with picture Flower picture on, F:264 Mallow, M:119 Okra. M:426 with picture Hiccup, H:191 Hickok, Wild Bill [American frontiersmanl. H:191 with portrait Hickory, H:191 with picture Wood picture on, W:299 Hicks, Edward (American painter), H:192 with picture Hicks, Sir John Richard (British economistl. H:192 Nobel Prizes (Economics), N:235 Hicks, Zachary (British explored, Hills Hidalgo y Costilia, Miguel [Mexican priestl. H:193 Mexico (Revolt against the Spanlards, M:419 with picture Hidalgo, Felix, H:193 Hide Clothing, Ci:88 Leather (How leather is made), Life: Tannic acid, T:30 Hide alue Glue, G:215 Hides, Jack Australian patrol officer, Hideyoshi []apanese military and politi cal leaderl, H:193 Japan (Tokugawa period), J:56 Hierarchy Cathedral (Organization of a Cathe dral). C:260 Hierarchy (behaviour) Dominance, D:254 Hierarchy (religion) Religion (How the major religions are organized), R:200 Hieratic writing Egypt, Ancient (The people), E121 Hieroglyphics (Development of hiero glyphic writing), H:193 Hieroglyphic Hittite Hittites (Way of Life), H:232 Writing (Phonetics), W:423 Hieroglyphics [writing], H:193 with plr Alphabet (The Egyptians), A:282 Egypt, Ancient (The people), E121 Hittites (Way of life), H:232 Maya (Communication and learning)

United Kingdom (The Scottish Highlands). U:55 with picture

See also Central Region: Grampian Re-

Region: list of Related Articles

gion: Strathclyde Region; Tayside

(Way of life) S:160

High Noon [film] High Plateaus Electric light, E:151 High relief High Renaissance High school, H:198 High seas, H:199 High Society [film] High-speed train High-sulphur coal High tide

picture

picture

Highland cattle

picture

Highland dancing

Scotland picture on, S:165

Highland games, H:199

Arms picture on, A:589

Scotland, S:163 with picture and map; (Ancestry and population) 5:160;

Highland games, H:199

Scotland (The arts), S:163

Cocaine, C:139 Marijuana (Short-term effects), M:207 High-altitude rocket Rocket, R:322 High [meteorology] Calms, Regions of (The horse lati-Weather (Air pressure), W:111; (table) W:111; (Pressure systems) W:114 High blood pressure Hypertension, H:412 High Church Anglicans (Doctrines), A:368 High comedy (drama) Literature (Forms of Literature), L:312 High Commission, The Court of, High-definition television (HDTV) Television, T:133 with picture High-Energy Astronomical Observatorios Astronomy (Space exploration), A:699 High-energy astrophysics Astronomy (Space exploration), A:699 High-energy particles Cosmic rays, Cl:370 high-energy rate forming (HERF) Machine tool, M:17 High explosive Ammunition (Artillery ammunition), A:338 Explosive, E:430 High-fidelity system, H:196 with pic-Compact disc, Ch246 Highriructose corn syrup (HFCS) Corn syrup, Ch:357 High German German language (Dialects and Standard German), G:106; German literature G:106 Germany (Language), G:119 High-hat [fish] Drum [fish], D:324 High Hollday Judalsm (Holy days and festivals), **J:156** High-Intensity discharge (HID) lamp Electric light (High-pressure gaseousdischarge lamps), E:151 high jump (athletics), H:198 with picture Athletics (Jumping events), A:711 with picture High Jungle (book by Beebel

Reebe William B:192 High king little, Irelandi, H:198 High-lift devices Aerodynamics (Principles of aerodynamics). A:71 High Meadow book by Eleanor B. Heady and Harold F. Headyl Literature for children, L:326 Kelly, Grace, K:213 High Peak (England), H:198 Algeria, A:264 with picture High-pressure gaseous-discharge ed1(High-pressure gaseous-discharge lamns), E:151 High priest [religion], H:198 Relief. R:194 with picture Painting (The later Renaissance), P:58; (Michelangelo) P:59 with pictures Ocean (Who owns the ocean?), 0:402 Keily, Grace, K:213 Porter, Cole, P:696 Europe (Transportation), E:380 with Magnetic levitation train, M:52 with Railway (Europe), R:106; (Japan) R:107 Coal (Coal as a fuel), Cl:121 High-temperature coke-oven tar Tar (Coal tar), T:42 High-temperature collector Solar energy, So:25 Moon (The moon and tides), M:592 Ocean (Tides), 0:395 Tide (High tides and low tides), T:242 with picture and diagram High Volume Instrument (HVI) Cotton (Classing), Ci:386 High Windows (poetry by Larkin) Larkin, Philip, L:66 **High Wycombe** Wycombe, W:425 **Higher education** University, U:266 **Highland Boundary Fault**

Highlands climate Climate (Differences in the surface of the (and). Ci:81 Highveld [region] PWV (Land), P:870 South Africa (The Plateau), So:62 Transvaal, T:364 Veld., V:325 Highveld | South Africal Free State, F:431 Gauteng (Land), G:64 Highway Road, R:295 Transportation (Development of inland transport), T:353; (Private transportation) T:356 Highwayman, H:201 , "Highwayman, The" (poem by Noyes) Noves, Alfred, N:317 Hijacking, H:201 Airport (Airport security), A:215 Aviation (A new age of flight), A:885 Terrorism, T:159 Hiira. See Hegira Hiking, H:202 with picture England picture on, E:268 Hilbert, David [German mathematician] Mathematics (Philosophies of mathematics in the 1900's), M:260 Hill, Alfred [Australian composer], Hill. Archibald V. [British physiologist], H:203 with portrait Nobel Prize (table; Nobel Prize for Medicine, 1922), N:230 Hill. Charles Hill of Luton, Lord, H:204 Hill, David Octavius (Scottish painter), H:203 Hill, Ernestine [Australian author], H:203 Hill, Graham (British motor racing driverl, H:203 Car racing (table), C:180 Hill, Joe (Swedish-American songwriter), H:203 Hill, Sir Rowland [British public figure], H:203 with portrait Post office (Development of the postal system), P:715 Tayside Region (Land features), T:75 Hill (geography), H:202 Mountain, M:665 Hill End [Australia], H:203 Hill fort [earthworks], H:204 with pic-Hill of Luton, Lord [British broadcaster], H:204 Scotland (Recreation), 5:161 Highland Region [Scotland], H:199 with Hill, Octavia British housing reformer), H:203 Hillary, Sir Edmund Percival (New

Zealand explorer), H:204 with por-

Antarctica (International cooperation). Mount Everest, M:657 with picture Hillbilly music Country music (Commercial success). Ci-396 Hillel I (Jewish religious leader), H:204 Hillery, Patrick lirish statesmanl, H:205 Hilliard, Nicholas [English painter], H:205 Elizabeth I picture on, E:212 Hillingdon (England), H:205 Hilton Hotel Systems Hilton, Conrad, H:205 Hilton, Conrad | American businessmanl. H:205 Hilton, James [English author], H:205 Him inlay by Cummings) Cummings, E. E., Cl:497 Himachal Pradesh (India), H:205 with picture and map Himalava (mountain range), H:206 with picture and map See also list of Related Articles Continental drift, Cl:316 India (Himalava), 1:67: (Animals) 1:69: picture on 1:56 Jammu and Kashmir (Land features). Mountaineering (Challenge of the Himalaya), M:672 Nepal (Land and climate), N:76 Plate tectonics diagram on, P:586 West Bengal (Land features), W:159 picture on W:160 Himalayan balsam, H:207 Himalayan bear Bear (Asiatic black bears), B:171 with picture Himalayan ibex Animal picture on, A:383 Himaiayan monal Bird picture on, B:324 Himalayan raspberry Raspberry, R:140 Himation (clothing) Clothing (The Greeks), Ci:99 Greece, Ancient (Food, clothing, and shelter). Ci:347 Himmler, Heinrich [Nazi leader], H:207 Gestapo, G:143 Hitler, Adolf (Rise of the Nazis), H:229 Hinchinbrook (ship) Nelson, Horatio (Joins the Navy), N:71 Hinckley and Bosworth [England], H:208 Hinckley, John W., Jr. [American public figure) Insanity, 1:239 Hind and the Panther, The (poem by Dryden) Dryden, John, D:327 Hindemith, Paul (German composer),

H:208

manl, H:208 with portrait

Germany (The Weimar Republic),

frenc lunkers, I:170 Ludendorff, Erich Friedrich Wilhelm, £:412 President (Nonexecutive presidents), P:766 Steafried Line, S:411 World War I (The Eastern Front). W:366: (The Battle of Verdun) WASS Hindenburg Line Signfried Line, S:411 Hindenburg lairshipl Airship (The Hindenburg), A:219 with picture Hindaut Butterfly (The digestive system), B:687 Insect (Digestive system), 1:251 with di-Hindi alphabet India, Languages of, I:122 With picture Hindi India, Languages of (Modern Indo-European languages), 1:123 Hindi (language), H:208 Alphabet pictures on, A:284 India, Languages of, I:121 Hindmarsh, Sir John (governor of South Australial, H:208 Hindu-Arabic numerals Arabic numerals, A:488 Numeration systems, N:349 See Hinduism Hindu Kush, H:208 Hinduism, H:209 with pictures See also list of Related Articles Asia (Religions), A:625; (The people) A:633; (Religions) A:634 with picture: (Country life) A:634 Bangladesh (Religion), B:85 Ethics (Other religions), E:336 Feasts and festivals, F:40 Food (Religious reasons), F:297 God. G:224 India (Religion), 1:63 Indonesia (Religion), 1:184: (Indian influences) I:193 Bhagavad-Gita, B:265 Marriage (Wedding ceremonles and customs), M:218 Monasticism (Non-Christian monasticism), M:544 Nepal (People), N:75 Pacifism, P:17 Religion, R:202; (How the major religions are organized) R:200 (Buddhism) R:202 Religious life, R:209 Saint (Non-Christian Saints), S:27 Sculpture, S:186 Sculpture (India), S:197 Suttee, So:451 Hindenburg, Paul von [German states-Trinidad and Tobago (Culture), T:405 World, History of the (Achievements in India), W:340 Hindustani music India, Dance and music of, 1:94 Hitler, Adolf (Rise of the Nazis), H:229;

(The New Order) H:230 with Dic-Hipny 1:127 Phoenicia (The spread of Phoenician Hiram (king of Tyre) influence), P:429

Hines, Earl [American jazz musician] H-216 Hinge joint loint, 1:136 with pictures Hinged window Window, W:271 Hinkler, Bert [Australian aviator], H216 with map Aeroplane (Fliers of the golden age). Adlit Donkey, D:266 Mule. M:689 Hinter Rhine [river, Switzerland] Rhine River (The course of the Rhine) R:251 with map Hinton, S. E. [American writer], H:216 Hip [anatomy], H:217 with diagram loint. I:136 Hip roof Roof, R:386 Hipparchus [Greek astronomer], H:217 Astronomy (Greek astronomy), A:697 Magnitude, M:60 Moon (table), M:595 Ptolemy, P:833 Hipparchus (Greek ruler), H:217 Hippias [Greek ruler] Cleisthenes, Cl:72 Hipparchus [Greek ruler], H:217 Hippies, H:217 Rock music (Growing social significance), R:313 Hippocampus [classification] Seahorse, S:225 Hippocampus [physiology] Memory, M:341 Hippocrates (Greek doctor), H:218 Biology (History), B:305 Blood (History of blood research), R:2000 Medicine (Greece and Rome), MISTA with picture Mental illness (Early attitudes), Massi Personality (Personality types), P.299 Science (Ancient Greece), S:143 Hippocratic oath Ethics (Professional ethics), E337 Hippocrates, H:218 Medicine (Greece and Rome), Mail Hippodrome, H:218 Byzantine Empire picture on, B:701 Olympia, O:431 Hippolyta Amazons, **A:301** Hercules (The second six labours), Hippolyte and Aricle [work by Ramest Rameau, Jean-Philippe, **R:131** Hippolytus [play by Euripides] Euripides, E:354 Hippopotamus, H:218 with pictures Animal picture on, A:385 Hir Ranjha (poem by Varis Shah) India, Literature of (Punjabi literature)

Solomon, So:31 Hire purchase, H:220 Hireling (English history) Shakespeare, William (Acting companies \$:307 Hirl Motu (language) Papua New Guinea (Languages), P:147 Himbito lemperor of lapan], H:221 with lanan (World War II), 1:59 with picture Royal families (Japan), R:420 Hroshige lapanese painter], H:221 with picture lapanese print (The master print art-Ists), 1:65 Hroshima [lapan], H:222 with picture lapan (History), 1:59 Nuclear weapon, N:335: (World War III N:340 United States, History of the (Allied victory), U:259 World War II (The atomic bomb). W:402 with picture Hiroshima No Pika lillustration by Toshi Marukil Uterature for children, L:318 Hirshhorn Museum and Sculpture Garden, H:222 Hirst, Brigadier Edward (Australian inventor Polocrosse, P:660 His Eye is on the Sparrow [book by Watersl Waters, Ethel, W:100 His Girl Friday [film] Hawks, Howard, H:87 His Toy, His Dream, His Rest work by Berryman] Berryman, John, B:260 Hispaniola [West Indies], H:222 Arawak Indians, A:496 Columbus, Christopher (The first landing), and exploration) Ci:210 (Problems in Hispaniola) Cl:211,

Ch209; (Trouble, settlement Cortés, Hernando (Early life), Cl:367 Halti, H:15; (History) H:18 West Indies, W:163 His, Alger (American public figure), H:222 Histadrut Ben-Gurion, David, B:233 Eshkol, Levi, E:324 Israel (Economy), I:436 Histamine Allergy (How an allergy develops), A:273

Antihistamine, A:462 Hives, H:233 Histology, H:223 See also list of Related Articles Anatomy, A:350 Bichat, Marie François Xavier, B:280 Botany, 8:479 Science (Anatomy), S:140 Histopiasma capsulatum Bird (The importance of birds), B:317 Histoplasmosis, H:223 Histoplasmosis [disease], H:223

Bird (The importance of birds). B:317 Historia Naturalis [encyclopedia] Encyclopedia (The first reference works). E:239 Geology (The Romans), G:92 Rome, Ancient (Science), R:376 Historian History, H:223 Historic age Age. A:156 Historic Building and Monuments Commission Stately homes of Britain and Ireland (Stately homes and the state). So:297 Historic Buildings Council (Stately homes and the state). Sa-207

Stately homes of Britain and Ireland Historical and Critical Dictionary (book by Bayle) Bayle, Pierre, B:163

Biography (The 1700's). B:301 Historical geography Geography (Divisions of geography), G:89 Historical geology

Geology (table), G:92 Historical literature Greek literature, G:357

Historical materialism Marx, Karl (Marx's theories), M:235 Histories or Tales of Past Times, with

Morals (book by Perrault) Mother Goose (The history of Mother Goose literature), M:644 Histories (book by Tacitus)

History (Ancient times), H:225 Latin literature (The Imperial Period), 1:99

Tacitus, Cornelius, T:4 Historiography

History (Interpreting historical events), H:225 History, H:223 with pictures

See also list of Related Articles; Greek literature (Historical literature), G:357; Mythology (Euhemerus' theory), M:763; Sculpture (As a record of history), S:186 with pictures; World, History of the,

W:330

History and Present State of Virginia, The book by Beverleyl American literature (Virginia), A:310

History as the Story of Liberty (book by Crocel

Croce, Benedetto, Ci:446 History [nonfiction]

Literature (Forms of Literature), L:313 History from the Founding of the City

[book by Livy]

History (The development of historical writing), H:225 History museum

Museum, M:718 History of American Sculpture, The [book by Taft] Taft, Lorado, T:6

History of Belgium [book by Pirenne] Pirenne, Henri, P:521

History of British India. A lbook by Milli

Mill. lames. M:471 History of England from the Acces-

sion of lames II. The book by Macaulayl Biography (The 1800's), B:302

Macaulay, Thomas Babington, M:5

History of England in the Elahteenth Century [book by Lecky]

Lecky, William Edward Hartpole, L:149 History of English Literature book by Taine

Taine, Hippolyte Adolphe, T:9 History of Ireland. The book by Keat-

inal Irish literature (Modern works in Gaelici, I:382

History of John Bull, The book by Arbuthnot)

John Bull, 1:130 History of King Richard III, The book

by Morel Biography (The Renaissance), B:301 More, Saint Thomas, M:604

History of Mr. Polly, The book by Wells

Wells, H. G., W:148

History of New York ... , A book by Irvingi

American literature (Literature of a young nation), A:311 Irving, Washington, I:409

History of Port Royal (book by Sainte-Reauvel Sainte-Beauve, Charles Augustin, S:47

History of Printing in America, The

lbook by Thomas

Thomas, Isalah, T:223

History of Rome (book by Mommsen) Rome, Ancient (Learning about ancient

Rome), R:383 History of the American Theater (book by Dunlap) Dunlap, William, D:350

History of the Church of Christ book by Daniel-Rops]

Daniel-Rops, Henri, D:31

History of the Consulate and the Empire [book by Thiers]

Thiers, Louis Adolphe, T:219

History of the Danish Kingdoms [play by Holberg]

Holberg, Ludvig, H:244

History of the Decline and Fall of the Roman Empire (book by Gibbon)

Gibbon, Edward, G:153 History (Modern times), H:226

Rome. Ancient (Learning about ancient

Rome), R:383 History of the Dividing Line, The

(book by Byrd) American literature (Virginia), A:310

History of the English Law book by Maitlandl

Maitland, Frederic William, M:70 History of the Kings of Britain book

Cl:524

picture

Fascism (History), F:30

Germany (Nazi Germany), G:136 with

Hungary (World War II), H:382

Italy (World War II), I:470 by Geoffrey of Monmouthl Munich Agreement (Background), Brut, B:603 M:702 Geoffrey of Monmouth, G:86 Nationalism (Different forms of nation-History of the Life and Voyages of alism), N:44 Christopher Columbus book by [rying] Nazism. N:63 Irving, Washington (Years in Europe), Owens, Jesse, 0:528 1:409 Papen, Franz von, P:133 History of the Peloponnesian War Reich, R:189 See also list of Related Articles [book by Thucydides] Hitler, Alois Greece, Ancient (Learning about an-Hitler, Adolf (Early life), H:228 cient Greece), G:355 Hitler Youth [German history] History (The development of historical Hitler, Adolf (The New Order), H:230 writing), H:225 Hitler's Drive to the East (book by Oratory (Classical orators), 0:484 Thucydides, T:232 Elwyn-Jones) Elwyn-Jones, Lord, E:225 History of the Popes [book by Ranke] Ranke, Leopold von, R:136 Hittite hieroglyphics History of the Reformation in Ger-Hieroglyphics picture on, H:195 many (book by Ranke) Hittites (Way of Life), H:232 Ranke, Leopold von. R:136 Hittites [people], H:232 with picture Cuneiform, Ci:497 History of the Reformation of Religion in the Realm of Scotland Hieroglyphics (Other hieroglyphic (book by Knox) writing), H:195 with picture Knox, John, K:310 Iron and steel (The Iron Age), 1:400 History of the Rise and Progress of Mitanni, M:516 the Arts of Design in the United Ramses II, R:132 States [book by Dunlap] Sculpture (Middle Eastern), S:194 Dunlap, William, D:350 Turkey (History), T:462 History of the Romance and Teu-Writing (Phonetics), W:423 tonic Nations book by Rankel Hive Ranke, Leopold von, R:136 Bee (The honey bee colony), B:185; History of the World (book by Raleigh) (Beekeeping) B:190 Raleigh, Sir Walter (His fall), R:128 Hives, H:233 History of Tom Jones, a Foundling, Allergy, A:273 The book by Fielding Itch. I:473 Fielding, Henry, F:71 Skin (Other skin disorders), S:471 **HLA** antigen Novel (The first English novelists), Blood (The significance of blood History of Trade Unionism, The book groups), B:398 by Webbs] Tissue transplant (Matching tissues), Webb, Sidney and Beatrice, W:127 History of Western Philosophy, A Hluhluwe [South Africa], H:233 **Ibook by Russell** H.M.S. Pinafore lopera by Gilbert and Russell, Bertrand, R:461 Sullivani Hitchcock, Sir Alfred [English film di-Gilbert and Sullivan, G:158 rectorl, H:226 with portrait Film industry (Films in the 1930's), Stationery Office, So:302 F:102 with picture Ho [symbol] Hitchcock, Tommy, Jr. |American polo Holmium, H:249 player Ho Chi Minh [Vietnamese revolutionary Polo, P:659 leaderl, H:233 with portrait Hitches Asia (The spread of Communism), Knots, hitches, and splices, K:307 with A:661 pictures Communism (Expansion in Southeast Hither Pomerania Asia), Ci:242 Pomerania, P:663 Geneva Accords, G:82 Hitler, Adolf [German dictator], H:227 Indochina (Independence), I:181 with pictures Vietnam (The Indochina Warl, V:380; Austria picture on, A:867 (The division of Vietnam) V:381: Braun, Eva, B:526 (North Vietnam and the war) Czech Republic (The Munich Agree-V:382 ment), Ci:521 Vietnam War (Background to the War), Czechoslovakia (German seizure), V:385

Ho Chi Minh City [Vietnam], H:233

picture on V:377

nam), V:386

Vietnam, V:374; (Population) V:375;

Vietnam War (Victory for North Viet-

Vietnam War (Early stages of the well V:383 with map Hoad, Lew [Australian tennis player] H-233 Tennis (table), T:147 Hoare-Laval Agreement Laval, Pierre, L:108 Hoarfrost Frost, F:470 Hoarhound Horehound, H:277 Hoatzin, H:233 Bird picture on. B:331 Hoban, James Irish-American architect White House (The original building), W:234 Hobart [Tasmania], H:234 with picture Tasman Bridge, T:50 Tasmania (Visitor's guide), T:53 with picture; picture on T:51 Hobbes, Thomas [English philosophel H:235 with portrait Age of Reason (Criticism of the Age of Reason), A:157 Materialism, M:254 Political science (Secularism), P:654 Hobbit, The book by Tolkien Tolkien, J. R. R., T:288 Hobble skirt Clothing (The 1900's), Cl:105 Hobbs, Sir John (English cricketer), Cricket (Outstanding cricketers), CE431 Hobby, H:235 See also list of Related Articles Button (Button collecting), B:692 Flower (Flower hobbies), F:265 with pictures Hobby (bird) Bird picture on, B:321 Falcon (Smaller falcons), F:12 Hobby magazine Magazine, M:40 with picture Hobson, John Atkinson (English scott omistl, H:237 Hobson, William New Zealand diplo matl Waitangi, Treaty of, W:7 Hochhuth, Roif (German playwright) German literature (Postwar German H:237 erature), G:110 Höchstädt, Battle of Blenheim, Battle of, **B:386** Hockey (sport), H:237 with pictures Hockey, Ice See Ice hockey **Hockey Association** Hockey (Hockey in the United King Hockney, David (English artist), H23 dom), H:239 with picture Hoddeston (England) Hertfordshire (Places to visit), Hills Hoddinott, Alun (Welsh composed,

Hoddie, Robert [Australian surveyork

Ho Chi Minh Trail [road]

353

Holborn (England) Outcault, Richard Felton, O:523 with H:240 Camden, C:51 pictures Hoder [Norse mythology] Hogarth, William (English painter), Balder, B:38 nessmanl, H:244 H:241 with picture Lok L:363 Holder up Hodges, Johnny American jazz musi-Engraving (History), E:297 Riveting, R:293 Fielding, Henry picture on, F:71 Hogben, Lancelot English physiololazz (The 1920's), 1:75 Holdfast [botany] gist), H:242 Hodgkin, Dorothy Crowfoot (British Hogfish chemist), H:240 Fish picture on. F:163 Nobel Prizes (Chemistry), N:229 Hogg, Helen Sawyer [American-born Fog. F:284 Hodgkin, Sir Alan (British physiologist), astronomer], H:242 Hogg, James (Scottish poet), H:242 Nobel Prizes (Physiology or medicine), Scottish literature (1800-1900), S:176 Hogg, Quintin McGarel Hodgkin, Thomas (English doctor) Holding reservoir Hailsham, Lord, H:9 Hodgkin's disease, H:240 Reservoir, R:238 Hogget wool Hodgkin's disease, H:240 Hole (atom) Wool (Types of wool), W:310 Cancer (Cancers of the blood-forming Hogmanay, H:242 and lymphatic systems), C:120 E:168 Hodgkins, Frances (New Zealand New Year's Day, N:139 Hole Hognose snake painter! Animal (Playing dead), A:404 New Zealand (Arts), N:156 Hogrogian, Nonny [American illustra-Hoe, Richard [American inventor] tor]. H:242 Printing (New presses and typecasting ics), E:185 Hogshead [unit of measure] machines), P:787 Weights and measures (table: Miscel-Hoffman, Dustin [American actor], laneous weights and measures), H:240 with portrait Holiday, H:244 Film Industry (Best performance by an W:136 Hogweed, H:242 with picture actor), F:96; picture on F:108 Folklore, F:290 Hohe Tavern [mountains, Austria] Hoffman, Samuel [Australian wine pro-Mexico, M:406 ducer Tyrol, T:491 Netherlands, N:90 Hohenstaufen [German history], H:243 Barossa Valley, B:117 Holiday Inn [film] Germany (The Holy Roman Empire), Hoffmann, Ernst Theodor Amadeus (German writer), H:240 G:131 German literature (Romanticism), Guelphs and Ghibellines, G:402 G:109 Hohenzollern [German royal family], Hoffmann, Josef [Austrian architect] H:243 Hollday [film] Berlin (Prussian capital), B:253 Architecture (Early modern architec-Germany (The rise of Prussia), G:132 ture in Europe), A:532 with pic-Holiness Code Prussia (The people and their work), ture Leviticus, L:198 Hoffnung, Gerard (British humorist), P:822: (Early history) P:822 Holiness Laws H:241 Teutonic Knights, T:166 Leviticus, L:198 Hofmann, August Wilhelm von iGer-**Hoist** imachine man chemistl Block and tackle (Endless chain), B:391 Formaldehyde, F:362 with diagram Hofmann, Hans (German-born Ameri-Hoisting drum can artist), H:241 Petroleum (Rotary drilling), P:343 Drawing picture on, D:303 Hoisting machinery S-305 Painting picture on, P:29 Construction equipment (Hoisting and Hofmannsthal, Hugo von [Austrian material-handling machinery), Macbeth, M:5 poeti, **H:241** Ci:310 Opera (The libretto), Der) 0:473, Hokkaido [Island] S:305 0:457; (Richard Strauss) 0:465; lapan, J:48 Hokusai [Japanese painter], H:243 with Rosenkavalier Strauss, Richard, So:349 picture Hog Japanese print (The master print art-See Pig ists), J:65 Hog-nosed bat Holbein, Hans, the Elder (German Holland Bat (Kinds of bats), Br148 See Netherlands painterl, H:243 Hog wool Holbein, Hans, the Younger [German Wool (Types of wool), W:310 ventorl, H:246 painterl, H:243 Hogan (dwelling) Clothing picture on, Cl:102 Indian, American (Indians of the Illustration (Printed illustrations), 1:34 Southwest), 1:159 More, Saint Thomas (Character and Hogan, Ben [American golfer], H:241

writings), M:604 with picture

Renaissance picture on, R:220

wrightl, H:244

Denmark (Arts), D:112

Holberg, Ludvig (Scandinavian play-

Colf (table), G:248; picture on G:250

Hogan, Paul (Australian comedian),

H:241

"Hogan's Alley"

Holden, Sir Edward (Australian busi-Holderness [England], H:244 Seaweed (Kinds), S:232 Holding capacity [weather] Holding company, H:244 See also Antitrust laws; Company Holding pattern [aviation] Airport diagram on, A:214 Electricity (Sources of electricity), Electronics (Solid-state components), Electronics (Terms used in electron-Holey dollar [money], H:244 Holford, Lord (British architect), H:244 See also list of Related Articles Crosby, Bing, Ci:454 Holiday, Billie (American jazz singer), H:245 with portrait lazz (The swing era), J:76 Cukor, George, Cl:488 Holiness movement [religion] Pentecostal churches, P:268 Holinshed, Raphael [English historian] Holinshed's Chronicles, H:245 Shakespeare, William picture on, Holinshed's Chronicles (book), H:245 Shakespeare, William picture on, Holistic medicine, H:245 Holker, John [British manufacturer] Industrial Revolution (Spread of the Industrial Revolution), I:217 Holland, John Philip [frish-American in-Submarine (Early submarines), So:371 Holland, Kingdom of [Dutch history] Netherlands (Independence), N:99

Holland, Sidney George New Zealand

New Zealand, History of (World War

political leader)

11), N:174

Holland [ship]

Australia, History of (Politics), A:824

Hoftermann, Bernard Otto (Australian

settler], H:250

Holland, John Philip, H:246 Holubtsi [food] Holy Thursday Easter (Maundy Thursday), E43 Ukraine (Food and drink), U:8 Submarine (Early submarines), So:371 Holy Alliance [European history], H:250 Holy Week, H:252 Hollanders [people] Maundy Thursday, M:267 Alexander I, A:243 Netherlands, N:88 See also Francis II Holy Trinity, The (painting by Ma-Hollick-Kenyon, Herbert **Holy Communion** Antarctica, A:444 sacciol Masaccio, M:239 Hollow dam Communion, Cl:238 **Holy Trinity** Dam (Kinds of dams), D:12 Roman Catholic Church (The Eucharist, Eastern Orthodox Churches Doc-Hollow relief (sculpture) or Mass), R:336 with picture Relief, R:194 Holy Deadlock book by Herbertl trines). E:48 Holy War, The [book by Bunyan] Holly [tree], H:246 with picture Herbert, Sir Alan Patrick, H:161 Holy Dying (book by Taylor) Bunyan, John, B:646 Christmas, C:495 Taylor, Jeremy, T:73 **Holy Wars** Holly, Buddy [American singer], H:246 **Holy Eucharist** Crusades, Ci:462 with portrait Communion, Cl:238 Holy Week, H:252 Hollyhock, H:246 with picture Hollywood [U.S.A.], H:247 **Holy Ghost** Easter, E:43 Palm Sunday, P:108 Film industry, F:99, F:106 Trinity, T:408 Los Angeles (City), L:390 with picture Holy Grail, H:251 Peru picture on, P:311 Hollywood Bowl Arthur, King, A:609 Holyoake, Sir Keith Jacka Hollywood, H:247 New Zealand, History of (National Galahad, Sir, G:9 dominance (1949-1972), N:175 Holm oak Knights and knighthood picture on, Holyroodhouse, Palace of, H:252 with Oak (Kinds of oaks), O:372 with picture K:300 Holmes, Arthur [Scottish geologist] Lancelot, Sir. L:42 picture Geology (Experimental geology), G:93 Launfal, Sir. L:105 Lothian Region (Places to visit, L:396 Royal Family of the United Kingdom Holmes, Oliver Wendell (American Round Table (The decline of the (Royal houses), R:425 writerl, H:247 with portrait Round Table), R:411 American literature (Poetry), A:314 Holy Island, H:251 Homage, H:253 Homage to Catalonia ibook by Orwell Essay (Personal essays), E:330 Lindisfame, L:289 with picture Constitution [ship], Ci:309 **Holy Land** Orwell, George, 0:507 Homage to the Square paintings by Holmes, Oliver Wendeil, Jr. (American Israel, 1:429 judgel, H:248 with portrait Palestine, P:102 Albersl Holmes, Sherlock literary figurel. Holy League [European history] Albers, Josef, A:233 H:240 Plus V, Saint, P:528 Home Animal (Animal homes and communi-Detective story (History), D:136 Thirty Years' War (The Bohemian peties), A:409 with pictures Doyle, Sir Arthur Conan, D:277 riod), T:221 Home, Lord [British statesman], H253 Holmium lelement, H:249 Tilly, Count of, T:248 Holocaust, H:249 with picture Holy Living [book by Taylor] with portrait See also list of Related Articles Taylor, Jeremy, T:73 Home care Germany (World War II), G:137 Medicine picture on, M:308 Holy orders [religion] Hebrew language and literature (He-Anglicans (Christian unity), A:368 Home computer brew literature today), H:131 Roman Catholic Church, R:337 See Computer Jews, J:116 with picture Holy Roman Empire, H:251 with map Home Guard, H:253 Nazism (Expansion, war, and collapse), See also list of Related Articles Home life Family (Family living), F:20 N:63 Austria (Early years), A:865 Wallenberg, Raoul, W:25 Charlemagne (Military conquests), Home movies Photography, P:458 with pictures Holocene Epoch Video camera, V:368 Earth (table), E:30 Europe (The Middle Ages), E:385 Home Owners Loan Corporation Prehistoric animal diagram on, P:747 Germany, G:131 Hologram Italy (The Middle Ages), 1:466 (HOLC) New Deal (Helping the needy), Nill Holography, H:249 with picture Middle Ages (Feudal government), Laser (Recording, storing, and trans-M:447 Home range mitting Information), L:70 Animal, A:409 **Holy Saturday Home rule** [politics], **H**:253 Holographic will Easter, E:43 Gladstone, William Ewart (The fight Will, W:254 Holy Week, H:252 over Irish home rule), G:177 Holography, H:249 with picture **Holy Scriptures** treland, History of (Home Rule and the Communication (Communication of See Bible the future). Cl:235 Land League), I:375 **Holy See** Northern Ireland (Union with Great Gabor, Dennis, G:4 Pope, P:673 Laser (Recording, storing, and trans-Holy Sepulchre, Church of the Britain), N:274 Parnell, Charles Stewart, P:198 mitting information), L:70 Jerusalem, J:92 with picture Scotland (Government), S:157 Holst, Gustay English composer), Holy Sonnets [poems by Donne] H:250 Home-care aides Donne, John, D:267 Day care (Day care for the elderly) Holt Bridge [painting by Wilson] Holy Spirit (religion) Wilson, Richard, W:261 with picture Christianity (Beliefs), C:484 D:51 Holt, Harold (Australian political Jesus Christ (The Nativity), J:96 with Homelands Bophuthatswana, B:464 leader), H:250 with portrait picture

Pentecost, P:265

Trinity, T:408

Pentecostal churches, P:265

Ciskei, Ci:14

South Africa, Government of The Con

Belize (History), B:226

355.

Hone Heke Pokai [Maori chief], H:264 South Africa (The former homelands). Java man, J:71 Maoris (History), M:179 Leakey family, L:136 So:58 New Zealand, History of (Heke's re-South African homelands, So:87 Peking man, P:246 Prehistoric people, P:752 with picture volt), N:169 Transkei, T:341 with map Hone, Evie [Irish artist], H:264 Homeless in Paradise Inovel by De PWV (History), P:870 Glass picture on, G:200 South Africa, History of (Early times), Boissierel Hone, Nathaniel [Irish painter], H:263 De Boissiere, Ralph A. C., D:62 So:76 Honecker, Erich [German political Homelessness, H:253 with picture Homo habilis, H:257 leaderl, H:264 Homeopathic magic Homo erectus, H:257 Germany (East Germany), G:138 Human being (Early human beings), Magic (Kinds of magic), M:45 Honegger, Arthur (French composer), Homeopathy [medicine], H:254 H:348 H:264 Leakey family, L:136 Hahnemann, Samuel, H:8 Honey, H:264 Prehistoric people, P:752 Homeostasis, H:254 Bear (Food), B:169 South Africa, History of (Early times), Motivation (Kinds of motives), M:649 Bee (Making honey), B:188; (As an in-So:76 Homeothermic dustry) B:190 Homo Ludens [book by Huizinga] Warm-blooded animal, W:40 Sugar, \$0:391 Huizinga, Johan, H:345 Homeowners' insurance Honey, Edward George [Australian Homo sapiens Insurance, I:274 iournalist) Heidelberg man, H:134 Namer (Greek poet), H:254 with picture Remembrance Day, R:212 Homo erectus, H:257 Aegean civilization, A:67 Honey ant Human being (Scientific classification), Epic. E:311 Ant. A:433 with picture H:346 Golden Age, G:239 Honey badger Neanderthal man, N:63 Greece, Ancient picture on, G:353 Prehistoric people (Early Homosapi-Badger, B:23 Greek literature (Epic poetry), G:357 Ratel, R:142 ens), P:753 Honey bear Races, Human, R:42 with pictures Odyssey, O:411 Sloth bear, \$:489 with picture World, W:317 Poetry (Narrative poetry), P:610 Honey bee Homo sapiens sapiens Homer, Winslow (American painter), Bee, B:184, B:184 with pictures Human being (Human beings of H:255 with picture Deseret, D:130 today), H:348 Realism (In painting), R:160 Honey, H:264 with picture Human being (Human beings of Homeric question Insect picture on, 1:257 Homer, H:255 today),, H:348 Insect (Legs), I:249 with picture; (Re-Prehistoric people (The single origin Homestead Act, H:255 production) I:254; picture on theory), P:757 Westward movement (The Great Races, Human, R:42 Plains), W:199 Pollen (Cross-pollination), P:655 with Homestead Homodont teeth pictures Teeth (Teeth of animals), T:97 with pic-Australia, art and architecture of (Mod-Honey bee mite ern architecture), A:788 Bee (Enemies), B:189 Homestead Act, H:255 Homogeneous society Homicide, H:256 City (The people), Ci:24 Bee (Enemies), B:189 Homing behaviour (zoology) Homogenization, H:257 Buzzard, B:694 Duck (The life of a duck), D:337 See also Emulsion Homing pigeon (The homing ability), Milk, M:468 Tennant, Kylle, T:140 H:256 Homologous structures, H:257 Honey guide [bird] Homing device Homonym, H:257 Bee (Enemies), B:189 Gulded missile (Homing guidance), See also Heteronym Ratel, R:142 G:409 with diagrams Homopolymerization Submarine (Attack submarine), So:368 Polymerization, P:661 Honey stomach Roming pigeon, H:256 with picture Homoptera (entomology) Pigeon picture on, P:496 Insect (table), 1:262; pictures on 1:243 Hominid Honey tangerine Homosexuality, H:258 Human being (Scientific classification), AIDS (How HIV is transmitted), A:179 Tangor, T:27 Honeybloom Australopithecus, A:855

H:XAR

stitution), So:73

Ramapithecus, R:129

So:76

Hominy feed

Homo erectus

Hominy [food], H:257

Gauteng (History), G:65

Heldelberg man, H:134

Homo habilis, H:257

and animals), F:369

Homo erectus, H:257

South Africa, History of (Early times),

Maize (The dry-milling industry), M:74

Fossil (Understanding ancient plants

Human being (Early human beings),

Honey buzzard, H:265 with picture Honey Flow, The [book by Tennant] Honey locust [tree], H:265 with picture Bee, B:184; (Making honey) B:188 Anglicans (Christian unity), A:368 Dogbane, D:241 with picture Hon. Augustus Keppel work by Rey-Honeycomb noidsl Bee (The honey bee colony), B:185 Reynolds, Sir Joshua, R:248 with picture Hon Sui Sen (Singapore public servant), Honey (The honey industry), H:264 with picture Honduras, H:259 with pictures and map Insect picture on, 1:257 See also list of Related Articles Honeydew [entomology] Aviation (Aircraft nationality marks), Ant (Dairying ants), A:433 with picture A:881 Aphid, A:471 El Salvador (Recent developments), Honeydew melon F:224 Melon (Types of melon), M:338 Flag picture on, F:203 Muskmelon, M:742 Tegucigalpa, T:98 Honeyeater, H:265; picture on H:266 World War II (table: the Allies), W:381 Honeyghan, Lloyd [British boxer] Honduras, British

Botany (The development of modern

botany), **B:480**

Cell (Before 1900), C:303 with picture Federation of Australia picture on. Boxing (Professional boxing), B:498 Honeyguide Gas (Gas laws), G:58 F:47 Hopewell [ship] Bird (Feeding methods), B:339 Mineral (The scientific study of min-Hudson, Henry (Northern voyages). eral crystals), M:488 Honeysuckie, H:266 with picture Newton, Sir Isaac (The Principia), H:338 Hong Kong, H:266 with pictures Hopkins, Sir Anthony [British actor]. N:188 Asia picture on, A:639 Science (The scientific revolution), H:276 with portrait Culture picture on, Cl:493 Hopkins, Gerard Manley English Dollar, D:249 S:146 Free port, F:430 Hooked rug poetl, H:276 Open University (Other institutions), Rugs and carpets (Other methods), fesuits, 1:95 R:451 Poetry (Sounds), P:612 0:455 **Hooker extrusion** Hopkins, Sir Frederick G. (English be-Patten, Christopher Francis, P:218 Police, P:641 Extrusion, E:434 chemistl, H:276 Hongi Hika [Maori chief], H:271 Hooker, Richard [English theologian], Hopkinson test [electricity] Hopkinson, John, H:276 Honi soit qui mal y pense H:273 Garter, Order of the, G:46 Hookeria laeta virens (plant) Hopkinson, John (British electrical engineer], H:276 Honiara (Solomon Islands), H:272 Harvey, William Henry, H:73 Honing Hooke's law Hopman, Harry [Australian tennis Hooke, Robert, H:273 player], H:276 Machine tool (Abrasive processes), Hookham, Margaret (British dancer) Hopper, Edward [American painted, M:17 Razor (Straight-edged razor), R:148 Fonteyn, Dame Margot, F:292 with H:276 Drawing (History), D:304; picture on **Honiton lace** Lace picture on, L:8 Hookworm, H:273 with picture D:305 Parasite (Parasites that feed on people Honolulu [Hawaii], H:272 Painting (American painting 1900-Honorius I [pope], H:272 and animals), P:171 1940), P:83 with picture Honorius III [pope], H:272 Horace (Roman poet), H:276 Worm (Roundworm), W:411 with pic-Honourable Schoolboy, The book by ture Epistle, E:313 Hoop-and-spear game Latin literature (The Golden Age), LS Le Carré Le Carré, John, L:149 Indian, American (Recreation), 1:140; Satire, S:99 Horatius (legendary figure), H:277 Honours and awards, H:272 picture on 1:145 Painting picture on, P:69 Royal Family of the United Kingdom Hoop pines, H:274 Hore-Belisha, Lord [British statesman] (The honours system), R:424 Hoopoe, H:274 with picture **Honours of Scotland Hoosier Poet** H:277 Crown jewels, Ci:461 Horehound, H:277 Riley, James Whitcomb, R:277 Honshu [island] Horemheb [king of ancient Egypt] Hoosier Schoolmaster, The lbook by Egypt, Ancient (The New Kingdom), Japan, J:47 Egaleston! Hoo Ah Kay Eggleston, Edward, E:98 Whampoa, W:214 Tutankhamen, T:476 Hoover Dam. H:275 Horizon lastronomyl, H:277 with picture Hooch, Pleter Dam (Some important dams), D:14 See De Hooch, Pieter Horizon [geology] Hoover, Herbert Clark U.S. president, Soil (Characteristics of soil), Soi21 will Hood, John Bell (American Confederate H:274 general], H:273 Great Depression (Human suffering). diagrams Horizon glass (measuring device) Hood, Robin G:317 See Robin Hood Hoover Dam, H:275 Sextant. S:292 Hood, Samuel (British admiral), H:273 Horizontal bar (sports) Hoover, J. Edgar (American govern-Hood, Thomas (British poet), H:273 ment officiall, H:275 Gymnastics, G:441 Hood [ship] Horizontal oscillator Hop, H:275 with picture Automatic frequency control, A872 Bismarck, B:370 Brewing (Boiling), B:555 Hooded pitohui (bird) Hop hornbeam Hormonal disease Disease (Noninfectious diseases), Animal (Chemical defences), A:404 Ironwood, 1:403 Hoof-and-mouth disease Hop, step, and jump D:193 Hormonal dwarfism Foot-and-mouth disease, F:317 Athletics (jumping events), A:711 Hoof, H:273 Hope of Heaven (book by O'Hara) Dwarf, D:360 Horse (Legs and hoofs), H:292 with O'Hara, John, 0:417 Hormone [botany] Plant (Factors affecting plant growth pictures Hope, Alec Derwent [Australian writer] Ungulate, U:25 Australia, Literature of (Modern short P:562 Hormone (physiology), H:277 Hooghly River [India], H:273 stories), A:832 See also list of Related Articles Calcutta, C:28 with picture Hope, Alec Derwent [Australian] Hook writer], H:275 Acne. A:24 Blood (Carrying hormones), B:396 Beach, B:164 Hope, Anthony English novelist, H:276 Brain (in regulating body processes) Fishing (Fishing equipment), F:184 Hope, Bob [American comedian], H:276 Fishing industry, F:192 Hope, John Adrian Louis (Australian B:515 Cell (Producing proteins), C:299 Hookah statesmanl, H:276 Pipe. P:515 Cholesterol, C:478 Hope, Leslie Townes Hooke, Robert (English scientist), H:273 See Hope, Bob Drug, D:313 Biology (Early discoveries with the mi-Food (Regulating body processes) Endorphin, E:244 Hopetoun House (Scotland) croscope), B:306 Lothian Region (Places to visit), L:396

Hopetoun, Lord [Australian governor-

generall

Gland (Endocrine glands), G:182

Mineral picture on, M:483

with portrait

singerl, H:282

Lizard (Defences), 1:340

insect picture on, k245

Hornet linsectl, H:283 with pictures

Horned lark

Lark, L:63

Wasp, W:63

Hornet [ship]

analyst]. H:283 Horniman, Annie [British theatrical producerl. H:283 Hornung, E. W. [English novelist], H:283 Hornussen [game] Switzerland (Sports), So:495 with picture Hornworm Hawk moth. H:85 Moth (Hawk moth), M:643 Hornwort, H:283 with picture Bryophyte, B:604 Plant (Bryophytes), P:546 with picture: (Classification of plants) P:570 with picture Höroldt, Johann [German artist] Dresden china, D:307 Porcelain (German porcelain), P:689 Horoscope, H:284 Astrology (Principles of astrology), A:680 with picture Zodiac (History), Z:500 Horoscope Imusic by Lambert Lambert, Constant, L:34 Horowitz, Vladimir (Russian-born pianistl, H:284 Horrocks, John [British inventor] Industrial Revolution (Weaving machines), I:213 Horrocks, Sir Brian (British soldier). 14:284 Horror film Film industry (Filmmaking in Europe), F:101 with picture; (Films in the 1930's) F:102 Horsa See Hengest and Horsa Horse, H:285 with pictures Animal (Animals and people), A:379 with picture Circus (At the circus), Cl:9; picture on Cowboy, Ci:406 with picture Extinct animal (Types of extinction), Hand (Animal hands), H:39 Polo (The horses), P:657 Skull, S:474 with picture Horse bot fly Rock (Metamorphic rock), R:309 Bot fly, B:478 Hombook leducation!, H:282 with pic-Horse Fair, The lpainting by Bonheurl Bonheur, Rosa, B:448 with picture Home, Donald (Australian author), Horse Feathers [work by Pereiman] Marx brothers, M:236 with picture Horne, Lena (American singer), H:282 Perelman, S. J., P:279 Horse fly, H:305 with picture Horne, Marilyn (American opera Fly (table), F:279; picture on F:277 Insect (Mouth parts), 1:248; picture on 1:244 Horse latitudes, H:306 Horned lizard, H:282 with picture Calms, Regions of, C:43 Weather (General circulation of the at-

mosphere), W:113

Wind (General circulation), W:267

Horse racing, H:306 with pictures

See also list of Related Articles

Aircraft carrier (History), A:206

Doolittle, James Harold, D:267

Horney, Karen [German-born psycho-

Furlong, F:492 Grand National, G:294 Horse (Life history), H:294 Ireland (Recreation), I:356; picture on Melbourne Cup, M:337 with pictures Steeplechasing, So:311 Trotting, T:418 with picture Horse ridina Horse, H:285 Horse (How to ride), H:296 with pictures Horse (Ponies), H:290 with pictures Horse (Riding equipment), H:294 with pictures Horse (Saddlehorses), H:286 with pic-Olympic Games (The Summer Games), O:434: (table) O:438 Horse show Horse, H:299 with pictures Horse trials Showlumping, S:399 Horsechestnut, H:309 with pictures Horsefly See Horse fly Horsehair worm, H:310 Horsehead Nebula Astronomy picture on, A:688 Orion, O:498 Horseheal Elecampane, E:138 with picture Horsehide Baseball (Equipment), B:125 with picture Horsemanship Horse (How to ride), H:296 with pictures Horsepower, H:310 Air conditioning (Capacity of air conditioners). A:193 Power (physics), P:731 Horseradish, H:310 with picture Horseshoe Horse (Shoes), H:299 Superstition (Kinds of superstitions), Transportation (The Middle Ages), T:352 Horseshoe bat 8at (Kinds of bats), B:148 Horseshoe crab [marine animal], H:310 with picture Horseshoe Falls [U.S.A.] Niagara Falls, N:190 with map Horseshoe pitching [game], H:311 with diagram Horsetail, H:312 with picture Plant, P:546 with picture Rush, R:460 Tree (Fossil trees), T:376 Horsham (England), H:312 Horticulture, H:312 See also list of Related Articles Gardening, G:34 Horton, Alfred George (New Zealand businessmanl, H:312

Horton, Ronald Duncan [New Zealand

businessmanl, H:312

Hot-metal typesetting

Clothing (The 1800's), Cl:104 with pic Printing (Typesetting), P:781 Horton, Sir Henry [New Zealand businessman], H:312 Hot rod [car], H:317 Hours of Idleness [poetry by Byron] Hot rolling Horus [Egyptian god], H:312 Byron, Lord (Byron's life), B:695 Egypt, Ancient (Religion), E:122 iron and steel (Rolling), 1:395 with pic-Housatonic [ship] Isls, 1:412 Submarine (Early submarines), So371 Mythology (The Great Ennead), M:754 Hot spots (radioactivity) House lastrologyl, H:321 Fallout (History), F:17; map on F:18 with picture; (The Osiris myth) M:754 Hot springs, H:317 Astrology (The houses), A:681 Horoscope (Parts of a horoscope). Mineral picture on, M:489 Osiris, O:509 Pharaoh, P:357 Hot tub H:284 Bath (Bathing for relaxation or plea-House [building], H:321 Relief picture on, R:195 See also list of Related Articles Sphinx (Egyptian sphinxes), So:215 sure). B:150 Hosea, Book of (Old Testament), H:313 Hot vent (volcanology) House Divided, A (book by Buck) Pacific Ocean (The ocean floor), P:14; Buck, Pearl S., B:608 Hostery (Exploration) P:15 House Divided, A (book by Callaghan) Stockings, So:332 Hot water heating Callaghan, Jim, C:41 Hosokawa, Morihiro (Japanese politi-Heating, H:127 with picture cal leaderl House fly linsect Hotbed [gardening], H:318 with picture Fly, F:277 Japan (Postwar boom), J:60 Hospice, H:313 Cold frame, Cl:159 Insect (table), 1:262 Basil, Saint, B:132 Hotel, H:318 Metamorphosis pictures on, M:377 Hospital, H:313 with pictures Hotham, Sir Charles Australian states-House martin See also list of Related Articles manl. H:320 Martin, M:231 House of All Nations [book by Stead] Basil, Saint, B:132 Eureka Stockade, E:354 Medicine, M:309 with pictures; (The Hotjump [computing] Stead, Christina, So:307 Middle Ages) M:314 House of Burgesses [U.S. history], Encyclopedia (New types of encyclo-Hospital expense insurance pedia), E:237 H:327 Insurance (Basic types of health insur-Hottentot House of Commons, H:327 Canada, Government of, C:93 with pic ance), 1:273 See Khoikhoin Hospital Sketches (book by Alcott) Houdini, Harry [American escapolo-Alcott, Louisa May, A:240 gist), H:320 with picture England (Government), E:262 Host [biology] Aeroplane (Other pioneer planes and House of Lords, H:327 Balance of nature (Disease and parafliers), A:80 Legislature, L:156 sites), B:35 Parliament, P:190 Magician (Escape magic), M:48 with Speaker, So:203 with picture Bird (Foster parents), B:348 picture United Kingdom, Government of the Life (The biological environment), Houdon, Jean Antoine [French sculp-U:111 picture on U:117 L:246 torl, H:320 United Kingdom (Parliament), U:49 Parasite, P:171 Sculpture (European sculpture). S:212 Westminster, Palace of, W:195 Remora, R:212 with picture House of Earth, The book by Buck Tapeworm, T:40 Hound, H:320 Buck, Pearl S., B:608 Hostage, The book by Behan! See also list of Related Articles House of Intellect, The book by Bar Behan, Brendan, B:201 with portrait Dog (Hounds), D:228 with picture Irish literature (Drama), 1:383 Hunting (Kinds of hunting), H:385 with zun) Hostage, H:317 Barzun, Jacques, B:123 picture Iran (Revolution and the Islamic Re-"Hound Dog" [song] House of Lancaster Wars of the Roses, W:41 public), I:339 Presley, Elvis, P:770 . Kidnapping, K:244 House of Lords, H:327 Hound of the Baskervilles, The Inovel Lebanon (War and terrorism), L:148 England (Government), E:262 by Doyle House of Commons, H:327 Treaty (Enforcement of treaties), T:370 Doyle, Sir Arthur Conan, D:277 Host [computers] Legislature, L:156 Houngan (religion) Nobility (In Great Britain), N:236 with Data protection, D:40 Haiti (Religion), H:17 Hostel Hounslow (London), H:320 picture Parliament, P:191 with picture Youth hostel, Y:466 London (Residential areas and hous-Hot air balloon Peer of the realm, P:243 ing), L:368 United Kingdom, Government of the Balloon, B:62 with pictures Houphouët-Boigny, Félix Ipresident of Montgolffer brothers, M:578 U:110 with picture Ivory Coast, H:321 United Kingdom (Parliament), U:49 Hot dip galvanizing [industrial process] Ivory Coast (History), 1:476 Westminster, Palace of, W:195 Galvanizing, G:18 President (Unlimited presidency), Iron and steel (Finishing), 1:398 Woolsack, W:313 P=766 House of Mirth, The [book by Wharlow Hot dog Houppelande American literature (Women writers), Sausage, S:113 Clothing (The Middle Ages), Cl:100 Hot line [communications], H:317 Hour [astronomy] A:316 Wharton, Edith, W:214 Cold War (The Cold War continued), Astronomy (Locating objects in the House of Representatives, H:327 Congress of the United States, Chillis Ci:160 sky), A:692 Union of Soviet Socialist Republics Hour [time], H:321 Constitution, Cl:309 (Relations with the United States), Time (Measuring time), T:256 United States, History of the Creating Legislature, L:156 LE35 Hourglass, H:321 with picture Hot-melt adhesives Time (Devices that measure time), the Constitution), U:242 Adhesive, A:47 T:256

Hourglass style

House of strength

359

House of the Seven Gables, The [book

by Hawthorne) Hawthorne, Nathaniel (His novels),

H:89

House of York Wars of the Roses, W:41

House on the Strand, The (book by du Mattrier

Du Maurier, Daphne, D:345

House organ

Communication (In business and industry), Cl:228

House plant

Gardening, G:35 with picture House rat

Rat (The body of a rat), R:141

House slave

Slavery (Functions of slaves), S:482

House sparrow

Bird picture on, B:322

Sparrow (Old World sparrows), So:200 with picture

Weaverbird, W:123

House trailer

See Mobile home House training

Pet, P:321

Houseboat, H:327 with picture Asla picture on, A:639

Boating (Other types of boats), B:414 Jammu and Kashmir picture on, J:26

Shelter picture on, S:350

Housefly

See House fly

Household Cavalry

Guards, G:394

London picture on, L:365

Houseleek, H:328 with picture Housemaster [book by Hay]

Hay, Ian, H:89

Houses of Parliament

London, L:370

Westminster, Palace of, W:195

Housesteads [England]

Northumberland (Places to visit), N:288 Housey-housey

Bingo, B:296

Housing, H:328 with pictures See also list of Related Articles

Arabs (Shelter), A:491

Australian Aborigines (Providing shelter), A:835 with picture

Aztec, A:900

City (Physical problems), Ck35 with pictures

Climate (Housing and climate), CE79 Colonial life in America (Houses),

Ch180 with picture

Maoris, M:175 Pet, P:322

Pioneer life in Australia and New Zealand, P:511 with picture

Rome, Ancient (Food, clothing, and shelter), R:373

Shelter, S:349 with pictures Stately homes, So:297 with pictures Housing code

Housing, H:330

Housing cooperative Cooperative, Ci:337

Housman, A. E. (British poet), H:331

Houston [U.S.A.], H:331

Texas, T:166 with picture

Houston, Samuel | American political leader], H:332

Texas, T:167

Houtman Abrolhos Islands

Houtman, Frederik de, H:332

Houtman, Frederik de Dutch navigatorl. H:332

Houvhnham (fictional animal) Gulliver's Travels, G:427

Swift, Ionathan (Gulliver's Travels),

50:481

Hove [England], H:332

Hovell, William [Australian explorer],

Exploration (Crossing Australia), E:426 Hume, Hamilton, H:367

Hoverbarges

Hovercraft (History), H:332

Hovercraft, H:332 with pictures Ship, S:376 with picture

Hovhaness, Alan American composer), H:333

How Gertrude Teaches Her Children

[book by Pestalozzi] Pestalozzi, Johann Heinrich, P:318

How Green Was My Valley [film]

Film industry (Best picture), F:96 Ford, John, F:341

How Lawn Tennis is Played book by Budgel

Budge, Don, B:618

How the Other Half Lives (book by Rijel

Riis, Jacob August, R:277

"How They Brought the Good News from Ghent to Aix" [poem by Browning

Browning, Robert [Browning's poems], B:595

How to Run a Bassoon Factory book by Balchinl

Balchin, Nigel, B:38

How to Write Short Stories (with samples/[book by Lardner]

Lardner, Ring, L:65

Howard of Effingham, Lord (English naval commander!, H:333

England (The reign of Elizabeth I),

Spanish Armada (The two fleets), So:190

Howard, Catherine

Henry VIII, H:152

Howard, Henry

See Surrey, Earl of

Howard, John (British prison reformer), H:333

Howards End [book by Forster] Forster, E.M., F:363

Howe, Earl

See Howe, Richard

Howe, Elias [American inventor], H:334

with picture

Clothing (The 1800's), Cl:104

Sewing machine (History), S:288

Howe, Irving [American critic] American literature (Essays), A:321

Howe, Julia Ward (American social reformerl, H:333 with portrait

Mother's Day, M:645

Howe, Michael [Australian bushranger],

Howe, Richard [British naval officer], H:334

Howe, Samuel Gridley [American social reformerl, H:333

Howe, Sir Geoffrey [British politician], DECAM

Howe, Viscount

See Howe, William

Howe, William (British military commander), H:334

American Revolution (Lexington and Concord), A:325; (Bunker Hill)

A:325; (The evacuation of Boston) A:326: (Campaign in New York)

Hale, Nathan (The fateful mission), H:20

Howel the Good

Hywel Dda, H:418

Howells, William Dean American author), H:335

American literature (Realists), A:315 August (Quotations), A:744

Howitzer

Artillery (Kinds of artillery), A:614 with picture

Firearm (Types of firearms) picture on, Howl, and Other Poems (book by Gins-

beral American literature (Poetry), A:319

Ginsberg, Allen, G:162

Howler [animal], H:335

Hoxha, Enver (Albanian political leader), H:335

Albania (History), A:230

Hoviake [England]

Merseyside (Places to visit), M:368

Hoyle, Edmond [English teacher of whistl, H:335

Bridge (History), B:568

Hoyle, Sir Fred (British astronomer), H:335 with portrait

Hst Chiang

See Xi Jiang

Hsl-Ling-Shi

See Silk (History)

HST [satellite]

Satellite, Artificial (Important satellites), S:96

Hsun-tzu See Xunzi

H.O

Water (The chemistry of water), W:81 with diagrams

Hu Yaobang |Chinese political leader), H:335 with portrait

Hua Guofeng [Chinese political leader], H:336

Canada, C:84 Hudson-Mohawk Lowland

Hugo, Victor Marie [French author] China (China after Mao), C:464 New York (Land), N:140 Hudson River [U.S.A.], H:339 H:343 with portrait Jiang Qing, J:117 Drama (Romanticism), D:297 Hua Luo-Yeng [Chinese mathematician], Hudson, Henry, H:337 French literature (Romantic poetry) Hudson River School (art), H:340 with H:336 F:448; (Romantic drama) F:448 Huang He (river, China), H:336 picture Huguenots, H:344 with picture Asia (Rivers), A:646 with map Church, Frederick Edwin, C:500 See also list of Related Articles China (The Mongolian Border Up-Cole, Thomas, Ci:161 Calvin, John (Calvinism), C:44 lands), C:449 Painting (United States painting), P:73 Disaster (Natural disasters), D:187 **Hudson Strait Basin** Essex (History), E:333 Famine (Too much rainfall), F:24 Canada, C:85 France (Religious wars), F:413 Flood (River floods), F:229 **Hudson Strait** Henry II, H:153 River (table), R:290 Hudson, Henry, H:337 La Rochelle, L:66 Louis XIV. L:399 **Huang He valley** Hudson, George (British businessman), Reformation (John Calvin), R:182 Asia, A:657 Hudson, Henry (English explorer), Richelieu, Cardinal (Rise to powerin Huang He, H:336 Prehistoric people (The rise of agricul-H:337 with pictures and map France), R:270 Canada (Start of the fur trade), C:97 Saint Bartholomew's Day, Massacreof, ture). P:758 World, History of the, W:335 Delaware, D:91 **Huang Ho** Exploration (The English In America). South Africa, History of (Settlement by See Huang He E:423 with map; (table) E:424 the Dutch). So:78 Huangdi (emperor of China) Hudson Bay, H:339 Huhu beetle, H:345 Calendar (The Chinese calendar), C:35 Hudson River, H:339 Hui-tsung Silk (Discovery of silk), S:425 New York (History), N:141 See Huizona Huaraches Northwest Passage, N:289 with map Hula (bird), H:345 Mexico (Clothing), M:406 Hudson, Sir William [New Zealand-Huipii grande (clothing) Huaraches (clothing) born engineer), H:338 Mexico (Clothing), M:406 Mexico (Clothing), M:406 Hudson, William Henry English au-Huitzilopochtli [Aztec god] Huáscar [Inca ruler] thorl, H:338 Aztec (Religion), A:899 Mythology (American Indian mythol-Inca (History), 1:51 Hudson's Bay Company, H:340 with Huascarán picture ogyl, M:763 Canada, History of (The growing En-Huizinga, Johan (Dutch historian), Andes Mountains (Physical features), A:354 glish-French rivalry), C:98; (Explo-HARMS Huizong lemperor of Chinal, H:345 Peru (The highlands), P:312 with map ration of the West) C:99 Huasos (clothing) Radisson, Pierre Esprie, R:92 Hurk Chile (Clothing), C:418 Simpson, Sir George, S:431 See Hukbalahap Huayna Capac (inca ruler) Hukbalahap [political movement], Yukon (History), Y:478 Inca (History), 1:51 Hira H:345 Hubble, Edwin Powell (American as-Guerrilla warfare (History), G:404 Colour, Cl:199 with diagrams tronomerl, H:336 Hue [Vietnam], H:341 Magsaysay, Ramón, R:59 Philippines (Japanese occupation), Astronomy (Red shift measurement). Huemuí A:696; (A new view of the uni-Deer (Where deer live). D:82 verse) A:699 with picture Hukbong Magpapalayang Bayan **Huggins, Godfrey** Hubble Space Telescope, H:336 Malvern, Viscount, M:124 See Hukbalahap Mount Wilson Observatory, M:664 Hugh Capet (king of France), H:341 Hulk (ship) Convicts in Australia (Transportation), Red shift, R:174 Capetian dynasty, C:142 Hubble Space Telescope, H:336 with France (The Capetian dynasty), F:412 Cl:320 picture Hugh of Lincoln, Saint, H:342 Hull [botany] Astronomy (Space exploration), A:699 Hugh Selwyn Mauberley poetry by Oats (The oat plant), 0:377 Rice (Structure), R:261 with diagrams with picture Observatory (History), 0:382 (Other uses) R:262 Pound, Ezra Loomis, P:728 Space exploration (Back into space), Hughes, Howard Robard (American Hull (England), H:345 Humberside, H:364 with picture So:160 businessman, H:342 with portrait Telescope (Limitations of optical tele-Hughes, Langston |American author), Hull [ship] Motorboat racing (Hull designs), scopes), T:114 H:342 Hubble's law M:650 with pictures American literature (The Harlem Ren-Astronomy (Red shift measurement), aissance), A:318 Sailing, S:22 Ship (Shipbuilding), S:383 Hughes, Rowland [Welsh writer] Huckleberry, H:337 with picture Weish literature (Later literature), Submarine, So:368 Huddersfield (England), H:337 with pic-**Hull-less barley** Barley (Cultivation), B:112 Hughes, Ted (English poet), H:342 Hudibras [poem by Butler] Plath, Sylvia, P:588 **Hull-less oats** Oats (The oat plant), 0:377 Butler, Samuel, B:677 Poet laureate (table), P:608 Hudson Bay, H:339 with picture and Hughes, Thomas English authorl, **Hull-less popcorn** Maize (Popcorn), M:73 тар H:342 Huli, Albert W. [American engineer] Canada, C:85 Rugby School, R:448 Vacuum tube (Development of the W Hughes, William Morris (Australian Hudson, Henry, H:337 uum tube), V:299 **Hudson Bay Lowlands** statesman), H:342 Hull, Cordell [American statesman]

Australia, History of (Building a nation

H:345

(1901-1960)), A:815

sance), W:348

Hull, William (American general) Indian wars (Other Midwestern conflicts), I:174 with picture Coffee, Ci:152 Rice (Cleaning and hulling), R:266 with picture Huime, Keri [New Zealand writer]. H:345 Human being, H:346 with picture See also list of Related Articles Animal (The origin and development of animals), A:411 Culture, Ci:490, Ci:490 with pictures Heredity, H:165 with pictures and diagrams Homo erectus, H:257 Prehistoric people, P:750 Primate picture on, P:777 Space exploration (Human beings enter space). So:145 with pictures; (Establishing a base on the moon) So:162; (Sending people to Mars) So:162 Kuman body, H:349 with pictures See also list of Related Articles Death (Medical aspects of death), D:58 Nutrition, N:362 Space exploration (Microgravity), So:135; pictures on So:136 Water (Water in living things), W:70 Human body louse (insect) insect (table), 1:262 Human Comedy, The [book by Balzac] Balzac, Honoré de, B:70 French literature (Romantic fiction), F:44F Human development Aging, A:159 Baby (The developing baby), B:4 with diagrams; (Growth and development) B:6 with pictures Cartilage, C:216 Child, C:403 with pictures Developmental psychology, D:144 Growth (Human growth), G:388 Human being (Physical characteristics), H:346 Intelligence, 1:276 Intelligence quotient, I:277 Language, L:49 Learning, L:137 Learning disabilities, L:139 Usping, L:307 Nutrition, N:362 Personality, P:299 Plaget, Jean, P:482 Play, P:592 Progeria, P:795 Psychology, P:827 Sleep (Human sleep patterns), S:484 Teeth (Kinds of teeth), T:90 with picture Human ecology Sociology (Population studies), So:11

Human engineering, H:360

See Human engineering

Human fossils (archaeology)

Human factors engineering

Prehistoric people, P:750; (table) P:759 **Human Genome Project** Heredity, H:175 **Human geography** Geography (Divisions of geography), Human growth hormone (hGH) Heredity (The era of genetic engineering), H:174 Medicine (The medical revolution), M:317 Human immunodeficiency virus AIDS. A:179 Human races See Races, Human Human relations, H:360 See also list of Related Articles **Human reproduction** See Reproduction, Human Human resources Labour force, L:2 **Human resources management** Personnel management, P:301 Human rights Bill of rights, B:292 Civil rights, Ci:40 Helsinki Accords, H:147 Human Rights, Universal Declaration of. H:361 Slavery (Views of slavery), S:481 United Nations, U:172 Human Rights, Universal Declaration of, H:361 **Human sacrifice** Aztec (Religion), A:899; picture on A:900 Inca (Religion), I:49 Maya (Religion), M:278 Mexico picture on, M:419 Mythology (American Indian mythology), M:762 Human Voice, The Imusic by Poulencl Poulenc, Francis, P:726 Human voice Voice, V:414 **Human voice control** Remote control, R:213 Humanism, H:363 Biography (The Middle Ages), B:301 Education (The Renaissance), E:93 Ethics (Ethics and religion), E:336 French literature (The Renaissance), F:446 German literature (The Renaissance), G:107 Italian literature, I:445 Learning (Theories of learning), L:138 Middle Ages (The growth of humanism), M:452 Nicholas V. N:199 Petrarch, P:327 Philosophy (Terms used in philoso-

phy), P:421

Renaissance, R:215

ture), S:210

sance), W:294

World, History of the (The Renais-

Humanistic psychology Psychology (Modern psychology), P:830 Humanistic psychotherapy Psychotherapy, P:832 Humanistic theories [education] Education (How people learn), E:89 Humanities, The Humanism (Education), H:364 Liberal arts, L:203 Social science (Relationship to humanities), So:5 Humber, River [England], H:364 Humberside [England], H:364 with picture and map See also list of Related Articles Arms picture on, A:585 **Humboldt Current** Pacific Ocean (Currents and tides), P:15 Peru Current, P:317 Humboldt, Alexander von See Humboldt, Baron von Humboldt, Baron von German scientistl. H:366 Botany (Later developments), B:481 Geology (The rock dispute), G:93 Hume Reservoir (Australia), H:368 Victoria (Rivers and lakes), V:362 Hume, Basil Cardinal (British religious leader), H:366 with portrait Archbishop picture on, A:506 Hume, David (Scottish philosopher), H:366 Freethinker, F:438 Kant, Immanuel, K:191 Philosophy (Empiricism), P:425 Political science (Liberalism), P:654 Hume, Hamilton [Australian explorer], H:367 with picture, portrait and map Australia (Land exploration), A:802 Exploration (Crossing Australia), E:426 Hume, John [irish political leader], FG:SMR **Humerus** [anatomy] Arm, A:577 with diagram Elbow, E:136 with diagram Frog diagram on, F:465 Shoulder, \$:398 with diagram Hume's River [Australia] Hume, Hamilton, H:367 with map **Humld soil** New South Wales (Climate), N:130 Humidiffer, H:368 Heating (Comfort), H:125 Humidity, H:368 Air conditioning (Controlling the moisture), A:192 Air (Moisture in the air), A:183 Dehumidifier, D:89 with diagram Environment, E:298 Heating (Comfort), H:125 Hygrometer, H:409 with diagrams Temperature-humidity index, T:137 Sculpture (Italian Renaissance sculp-Weather (table), W:111; (Moisture) W:112 Women's movement (The Renais-Humitas (food)

Bolivia (Food), B:427

See also list of Related Articles

France (A period of wars), F:413

Edward III, E:94

England, E:276

Hunter, John [Australian statesman] Hummingbird, H:369 pictures on Middle Ages (A halt in progress), H:385 with portrait Australia, History of (The New South Hundredweight [unit of measure], Animal (Interesting facts about ani-Wales Corps), A:801 mals). A:377 with picture Bird picture on. B:316. B:328 Hung jury First Fleet, F:148 Hunter, John (British surgeon), Hass Heart (Birds and mammals), H:114 lury, 1:173 Pollen (Cross-pollination), P:655 Trial (Reaching a verdict), T:396 Surgery (History), So:439 Hunter, William [English anatomist. Hummingbird moth **Hungarian Communist Party** Hawk moth, H:85 Hungary, H:373 H:385 **Humoral Immune response Hungarian** pointer Hunting and gathering Vizsla, V:423 with picture Family (Early families), F:22; (Tradi-Immune system (The Immune retional families in other cultures sponse), 1:39 **Hungarian Revolution [1956]** Cold War (The Cold War continued), F:23 with picture Humour [physiology], H:371 Human being, H:348 Blood (History of blood research), B:400 Hungary (Communist Hungary), H:383 Nomad, N:238 Hippocrates, H:218 **Hungarian Socialist Party** Prehistoric people (The first human Humour [wit], H:371 Hungary (Government), H:374 beings), P:751; (Neanderthals) See also list of Related Articles Hungary, Aviation (Aircraft national-Drama (Elizabethan playwrights), ity marks)A:881, H:373 with pic-Hunting, H:385 with picture See also list of Related Articles tures and maps Humpback See also list of Related Articles Animal, A:413 See Hunchback Budapest, B:612 Australian Aborigines, A:834 with pic Humpback whale Communism (In Eastern Europe). Animal (Animal travellers), A:410 Conservation (Wildlife conservation). Ci:297: (Conservation around the Whale (Rorquals), W:205, W:206; (Re-Europe (table), E:359 production) W:209; (Group life) Fascism (Fascism in other countries). world) Cl:301 Egypt, Ancient (Recreation), E:122 W:210; pictures on W:203 Humperdinck, Engelbert [German Flag picture on, F:208 Elephant, E:202 composer), H:371 Magyars, M:62 Falconry, F:14 Humphries, Barry [Australian writer]. Pécs. P:240 Game [animals], G:23 H:372 World War II (table: The Axis), W:381; Hound, H:320 Human being (Hunting and gathering Humus (earth), H:372 (table: The Axis) W:407 Conservation (Soil conservation). Hunger, H:384 societies), H:348 Indian, American (Hunting, gathering, Freedom from Hunger, F:436 and fishing), 1:139; (Early days) Plumbing (The drainage system), P:602 United Nations (Fighting hunger), 1:149; (Indians of the Plains) 1:154 Sewage (Rural sewerage systems), U:173 Lion (How a iton hunts), L:300 Hunger [book by Hamsun] Mammal (Methods of attack and de Soil (Plant and animal matter), So:20 Hamsun, Knut, H:37 Topsoil, T:299 Hungerford [England] fence), M:135 Hun [people], H:372 Berkshire, B:245 Pointer, P:619 Asia (Nomadic invasions), A:658 Hunley Retriever, R:245 Attila, A:732 Submarine (Early submarines), So:371 Rifle, R:274 with picture Tiger (How a tiger hunts), T:244 Europe (Germanic invasions), E:385 Hunt, Dalsy Mary O'Dwyer Wildlife conservation (Methods of Goths, G:264 Bates, Daisy, B:149 wildlife conservation), W:251 Hunch Hunt, Henry (Orator) (English political Wolf (How wolves hunt), W:286 Intuition, I:299 leaderi Zoo (How zoos obtain animals), Zst Hunchback, H:372 Peterioo, P:326 Hunchback of Notre Dame, The book Hunt, John **Hunting dog** Dog (Sporting dogs), D:226 See Hunt, Lord French literature (Romantic fiction), Hunt, Leigh [English journalist], H:384 **Hunting** knife F:448 Keats, John (His life), K:208 Knife, K:298 Hugo, Victor Marie, H:343 Hunt, Lord [British explorer], H:384 Hunting whip **Hundred** [English history] Horse (The whip), H:294 Mount Everest, M:657 Shire, S:388 Hunt, Richard Morris lAmerican archi-Huntingdon (England) Cambridgeshire (Places to visiti, C50 **Hundred Days** [French history] tect Huntingdonshire (England), H:366 Louis XVIII, L:400 Statue of Liberty (The pedestal), Huntington, George [American phys] Napoleon I (The Hundred Days and So:305; (Inspiration and prepara-Waterlook, N:22 tion) So:305 cian Huntington's disease, H:386 Hundred Days [U.S. history] Hunt, Sam [New Zealand poet], H:384 Huntington's disease, H:386 New Deal, N:109 Hunt, William Holman [British painter], Roosevelt, Franklin Delano, R:388 Birth defect, B:368 Brain (Genetic disorders), B:517 Hundred-year-old egg [food] Pre-Raphaelite Brotherhood, P:763 Heredity (Hereditary disorders), His Food (Interesting facts about food), **Hunter River** F:294 New South Wales (Natural resources), (table) H:169 Hundred Years' War [1337-1453], H:372 Huntsman [sports] N:131

Hunter Valley

Hunter, Evan

McBain, Ed. M:285

New South Wales (Land), N:128

Fox hunting, F:380

makerl

Huntsman spider, H:386

Huntsman, Benjamin (British clock

Darwin, Charles Robert (The influence

Agnosticism, A:159

from and steel (The first steel), 1:400 Hunyadi, John (Hungarian nobleman) Hungary (The Kingdom of Hungary), Hunza [Pakistan], H:386 with picture Hoon pine, H:387 Huppa Judaism (Special occasions), J:156 Hurd, Douglas (British politician), H:387 Hurdling Isportl, H:387 with picture Athletics (Hurdle races), A:710 with pictures Hurdy-gurdy Hand organ, H:39 Gaelic games, G:6 with picture Ireland (Recreation), 1:355 Northern Ireland (Recreation). N:272 Huron, Lake See Lake Huron Hurricane, H:387 with pictures Cyclone, Ci:511 Disaster (Natural disasters), D:187; (table) D:188 Pacific Ocean (Typhoons and hurricanes), P:15 Safety (During a hurricane), S:14 Tidal wave, T:240 Typhoon, T:488 Weather, W:117 with picture West indies (Climate), W:170 Wind (table), W:269 Hurricane laircraftl Battle of Britain, B:157 Hurricane warning Hurricane, H:389 ikmy on Down [book by Wain] Wain, John, W:5 Hus, John (Bohemian religious reformerl, H:389 Czech Republic (The rise of Bohemia), Cl:520 with picture Czechoslovakia (The rise of Bohemia), Ch823 Eck, Johann, E:53 Lollards, 1:363 Luther, Martin picture on, L:419 Moravian Church, M:603 Reformation (Religious causes), R:181 Sigismund, S:414 Husain, M. F. [Indian artist] India, Art of (The colonial and modern periods), I:89 with picture Husák, Gustáv (Czech political leader) Czechoslovakia (The 1960's), Ci:525; (The Velvet Revolution) Cl:526 Husak, Gustávák, Gustáv iCzech political leader] Czech Republic (The 1960's), Cl:521 Husband Marriage, M:217 with pictures Hush money Extortion, E:432 Husk [botany] Maize (Appearance), M:71, M:71 with picture Husky Siberian husky, 5:407 Huss, John

See Hus, John Hussar [soldier], H:389 Hussein bin Onn, Datuk, H:390 Hussein I (king of Jordan), H:389 with portrait Israel (Recent developments), 1:439 lordan (The Palestinian conflict), J:145; (Relations with the West Bank) 1:145; (Recent developments) 1:145 Royal families (Jordan), R:420 Hussein, Saddam, H:390 Iraq (National government), 1:342; (The republic) 1:347 Kuwait (History), K:345 Persian Gulf War, P:296 President (Unlimited presidency), P:766; picture on P:765 Hussein, Sherif Iruler of Meccal Ibn Saud, 1:3 lordan (Independence), J:144 Husseln, Taha, H:390 Husseini, Hajj Amin al, H:390 Husserl, Edmund (German philosopher) Phenomenology, P:361 Philosophy (Philosophy in the 1900's), P:426 Hussey, Gemma, H:390 Hussites, H:391 Bohemia, B:420 Czechoslovakia (The rise of Bohemia), Ci:523 Hus, John, H:389 Prague (The city), P:736 Huston, John, H:391 Film industry (Best achievement in directing), F:96 Huston, Walter, H:391 Film industry (Best performance by an actor in a supporting role), F:97 Hutchins, Robert Maynard, H:391 **Hutchinson-Gilford syndrome** Progeria, P:795 Hutchinson, Anne Marbury, H:391 Hutchinson, Thomas, H:391 Boston Tea Party, B:477 Hutter, Jacob | Moravian religious leader Hutterites, H:391 Hutterites, H:391 Anabaptists, A:347 Hutton, James (Scottish physician), H:392 Geology (The rock dispute), G:93 Hutton, Sir Leonard (English cricketer), H:392 Cricket (Outstanding cricketers), Cl:431 with picture Hutu (people) Burundi (People), **B:666**; (History) B:666 Ruanda-Urundi, R:428 Rwanda, R:506; (People) R:507; (History) R:508

Huxley, Sir Julian Sorell, H:392

Huxley, Thomas Henry Inaturalisti,

of Darwin's ideas), D:40 Huygens, Christiaan [Dutch scientist], H:392 Diffraction (How diffraction occurs), D:170 Light (Early ideas about light), L:264 Optics (History), 0:480 Pendulum, P:254 Physics (Newton), P:475 Saturn (Rings), S:101 Hwange National Park (Zimbabwe) Zimbabwe (Plants and animals), Z:495; picture on Z:496 Hyacinth bean Bean (Kinds of beans), B:166 Hyacinth, H:393 with picture Flower (Garden perennials (Buibs)), F:248 with picture Poisonous plant (table), P:621 Hyades [astronomy] Taurus, T:68 Hyaenidae (zoology) Aardwolf, A:3 with picture Hyaiine membrane disease Respiratory distress syndrome, R:241 Hybrid (biology), H:393 Breeding, B:551 Burbank, Luther, B:648 Flower (Flower breeding), F:266 Fruit (Developing new varieties of fruit), F:474 Maize (Development of hybrids), M:75 Pig (Kinds of pigs), P:491 Hybrid |carl Electric car, E:141 **Hybrid** magnet Magnetism (Electromagnets), M:56 Hybridization (botany) See Hybrid Hybridoma Monoclonal antibody, M:568 Hydatid, H:394 Hyde Park Barracks [Australia], H:394 Greenway, Francis, G:364 with picture Sydney (Buildings), So:505 Hyde Park London (Parks), L:371 United Kingdom, History of the picture on, U:149 Hyde, Douglas (Irish poet), H:394 Irish language (Later Modern Irish), Hyderabad (city Pakistan), H:397 Hyderabad (city, Indial, H:394 with pic-Hyderabad Istate, Indial, H:394 Hydra [animal], H:397 Animal (Adaptations for sensing the environment), A:401; (Asexual reproduction) A:404 with diagram Cnidarian, Ci:118 Hydra [Greek mythologyl, H:397 Huxley, Aldous Leonard [writer], H:392 Hercules (The first six labours), H:163 Huxley, H. E. (English scientist) Renaissance picture on, R:219 Muscle (How muscles contract), M:713 Hydrangea (shrub), H:397

Flower (Garden perennials (Flowering

shrubs)), F:249 with picture Hydroelectric plant Hydra's Head, The book by fuentes] Water power, W:91 Fuentes, Carlos, F:480 Hydroelectric power Hydrate, H:398 See also Dam; Electric power Hydrated lime |chemical| Saint Lawrence Seaway, S:38 Lime, L:279 Snowy Mountains Scheme, S:525 Hydrated silicate [mineral] Water power (World water power Asbestos (Types of asbestos), A:618 production), W:91 Hydraulic brake Hydroelectric power stations Brake, B:520 with diagram Brazil (Energy sources), 8:541 Hydraulic engine, H:398 Electric power, E:159 with picture Engine, E:253 Nuclear energy (How nuclear energy Hydraulic-fill dam is produced). N:323 with pictures Dam (Kinds of dams), D:12 Turbine (Water turbines), T:448 with Hydraulic giant picture Gold. G:232 Hydroelectricity Hydraulic ram See Hydroelectric power Brick (Dry-press process), B:558 Hydrofluoric acid, H:401 Hydraulic system Glass (Etching), G:195 Tractor, T:323 Hydrofoil, H:401 with pictures Hydraulic turbine Boat (Other types of boats), B:414 Electric power (Hydroelectric power Missile boat, M:508 with picture stations), E:159 Ship (Other passenger vessels), S:376 Turbine (Water turbines), T:448 with Transportation (Water transportation). picture T:348; picture on T:347 Hydraulics, H:398 Hydrogen, H:404 Hydraulus See also list of Related Articles Organ (History), O:495 Acid, A:23 Hydrazine, H:400 Airship (Lift), A:217 Hydriodic acid Atom (The isotopes of hydrogen) pic-Hydrogen lodide, H:405 ture on, A:726 Hydrobromic acid Balloon (Gas balloons), B:60; (History) Hydrogen bromide, H:405 Hydrocarbon, H:400 Deuterium, D:142 See also list of Related Articles Electrolysis (How electrolysis works), Air pollution (Forms of transportation), E:175 with diagram Energy supply, E:249 Gas (The composition of natural gas), Fire (Gases), F:127 G:55 Isotope, I:427 Hydrogen (Occurrence), H:404 Sun (What the sun is made of), So:410; Natural gas liquids, N:46 (The thermonuclear furnace) Paraffin (Properties), P:160 So:416 Petrochemicals (How petrochemicals Tritium, T:411 are made), P:329 Hydrogen balloon Petrol (Petrol octane ratings), P:329 Balloon, B:63 Petroleum (The uses of petroleum), Hydrogen bomb P:336 Bomb. B:436 Rubber (The chemistry of rubber), Cold War (The Cold War continued). R:436 CE:160 Smog (Photochemical smog), 5:500 Deuterium, D:142 Hydrocephalus [disease] Einsteinium, E:132 Spina bifida, So:228 Fusion, F:509 Hydrochloric acid, H:401 See also Fallout Acid, A:23 Nuclear weapon, N:335 Chlorine (Uses of chlorine), C:475 Teller, Edward, T:136 Halogen, H:25 Hydrogen bond [chemistry] Hydrogen (Hydrogen compounds), Water, W:82 H:405 Hydrogen bromide, H:405 Neutralization, N:104 Hydrogen chloride Stomach (The stomach's work), Sp:333 Chlorine (Uses of chlorine), C:475 Hydrocortisone [drug] Hydrochloric acid, H:401 Drug (Chemical laboratories), D:315 Hydrogen (Hydrogen compounds), Hydrocyanic acid H:405 Prussic acid. P:824 Hydrogen cyanide Hydrocyanic acid gas Cyanide, Cl:508 Gas chamber, G:59 Hydrogen dipxide Prussic acid, P:824 Hydrogen peroxide, H:405 **Hydrodynamics** Hydrogen fluoride Hydraulics, H:398 Fluorine, F:275

Hydrogen peroxide, H:405 Bleach, B:385 Hydrogen (Hydrogen compounds), Hydrogen sulphide, H:406 Sulphide, So:400 Hydrogenated tallow alcohol (chemi-Detergent and soap (How detergents are made). D:139 Hydrogenation, H:406 Bosch, Carl, B:472 Coal (Coal conversion), Cl:132 Fat (Structure), F:34 Hydrogen (Hydrogen compounds), H:405 Nickel, N:200 Palladium, P:106 Petroleum (Cracking processes), P34 Hydrograph Imapl Jolliet, Louis, J:138 Hydrographic survey Surveying (Types of surveys), So:445 Hydrography, H:406 with picture Hydrolite Geode, G:86 Hydrologic cycle Hydrology, H:406 Water (Nature's water cycle), W:72 Hydrology, H:406 Geology (table), G:92 Geophysics, G:99 Hydrolysis (chemistry), H:407 Hydrometallurgy Metallurgy (Leaching), M:376 Hydrometer, H:407 with picture Density, D:118 with diagram Hydronium ion Acid, A:24 Hydrolysis, H:407 Hydrophobia Rabies, R:39 Hydrophone, H:407 See also Microphone Torpedo (How a torpedo operates), T:303 with picture Hydrophyte Plant (Aquatic regions), P:552 Water plant, W:88 Hydroplane, H:407 Motorboat racing (Hull designs), M:650 with pictures Hydroponics, H:408 with pictures Agriculture (Methods of crop produc tion), A:164 Kuwait (Economy), K:344 Hydrosphere, H:408 Earth (The earth's surface), E:19 Hydrostatic balance linstrument Galileo (Early scientific interests), GIS Hydrostatic extrusion Extrusion, E:434 Hydrostatics

Hydrogen lodide, H:405

Hydrogen ion

Acid, A:24

pH. P:356

Hydrogen nitrate

Nitrate, N:221

Temperature, Body (Warm-blooded

animais), T:137

Thirst. T:220

365

Hypnos [Greek mythology], H:413 with

picture

Morpheus, M:617

Hyperactivity, H:411

See Hyperactive child

Hyperbola (mathematics), H:411 with di-

Biank verse, B:384

lambic verse

Poetry (Foot-verse metres), P:612

Hypothermia, H:417 Greek literature (Elegiac poetry), G:357 See also list of Related Articles Indian, American (Early days), 1:148 Safety (In winter sports), S:12 lapetus [Greek mythology] Hypothesis Prometheus, P:799 La Brea pits, L:6 Bacon, Francis (His philosophy), B:19 lapetus [satellite] Lake Agassiz, L:20 Prehistoric people (The spread of set-Psychology (Methods of psychological Saturn (table), S:101 with picture; (Satresearch), P:828 ellites) S:102 tlement). P:758 Ice, I:4 with pictures Research (Forming a hypothesis), Ibadan [Nigeria], I:2 Ibáñez, Vicente Blasco Antarctica pictures on, A:437 R:236 Science (How scientists work), S:141 See Blasco Ibáñez, Vicente Arctic Ocean, A:548 Iberia [Europe], k2 Erosion (How erosion occurs), E322 Zoology (How zoologists work), Z:506 Hypothyroidism Iberia (music by Albéniz) Freezing point, F:439 Goitre, G:229 Albéniz, Isaac, A:233 Hail, H:9 with picture Iceberg, 1:17 with picture and diagram Thyroid gland (Underactive thyroid), Iberians [ancient people] T:235 iberia, I:2 Refrigeration, R:184 Hypoxanthineguanine phosphoribo-Portugal (Population and ancestry). Regelation, R:187 svi transferase Road (How roads are maintained), P:699; (Early days) P:704 Lesch-Nyhan syndrome, L:184 Ibert, Jacques [French composer], I:2 R:298 Hypsilophodon Iberville, Sieur d' [French-Canadian ex-Snow, S:521 with pictures Dinosaur (Ornithischians), D:180 ploreri, £2 Water, W:81 Hyracotherium lbex, I:2 See also Dry ice Extinction (Types of extinction), E:432 Animal picture on, A:383 Ice Break, The [music by Tippett] Hyrax, H:418 with picture Goat (Wild goats), G:221; picture on Tippett, Sir Michael, T:262 Hyssop, H:418 with picture G:222 ice cap Hysterectomy, H:418 ibis, t:2 See Idecap Endometriosis, E:244 Bird picture on, B:330 ice cream, i:7 with pictures Surgery (Some common surgical oper-Ibizan hound, E3 with picture ice crystal ations), So:438 Rainmaking (Rainmaking methods), Hysteresis loss [physics] See International Business Machines R:121 Steinmetz, Charles Proteus, So:313 Corporation Ice crystal theory Hysteria, H:418 Ibn Batuta (Arab traveller), I:3 Rain (Formation of rain), R:116 Freud, Sigmund (His life), F:457 **Exploration (East-West contact** Ice dancing Hywel Dda (king of Wales), H:418 resumes), E:419; (table) E:419 ice skating, 1:15 with pictures Ibn Khaldun [Arab historian], E3 ice floe History (Medieval times), H:225 Antarctica, A:440 Ibn Qutaiba ice pack, 1:15 Encyclopedia (History), E:239 ice-formed pond Pond (Kinds of ponds), P:667 **Ibn Roshd** Averroës, A:877 ice hockey, I:9 with pictures See also list of Related Articles Ibn Saud (king of Saudi Arabia), 1:3 with Olympic Games (The Winter Games), [[letter], I:1 with pictures picture [[symbol] Ikhwan, 1:30 O:436; (table) O:437 Iodine, 1:325 Saudi Arabia (The founding of Saudi Ice Island Arabia), S:111 Arctic Ocean (Ice), A:548 Titles beginning with the Italian word Cook, James picture on, Ci:330 Ibn Saud, Abd al-Aziz appear under their key words, as Saudi Arabia (The founding of Saudi tce nucleus in Pagliacci, I Rain (Formation of rain), R:116 Arabia), S:111 I, Claudius [book by Graves] Snow (How snow forms), S:522 ibn Saud, Muhammad [Saudi ruler] Graves, Robert, G:307 Saudi Arabia (The Saud dynasty), S:111 Ice pack, I:12 Antarctica (Coastal waters), A:440 I, etcetera [book by Sontag] Ibn-Sina Sontag, Susan, So:42 Avicenna, A:887 lce patroi I and Thou [book by Buber] Ibsen, Henrik [Norwegian dramatist], 1:4 Iceberg, I:18 Buber, Martin, B:605 Drama (Modern drama: Ibsen to ice sheet Ice Age (Effects of the ice sheets), 1/2 I Ching (ancient book), 1:2 World War II), D:298 I Chose to Climb [book by Bonington] Grieg, Edvard, G:374 Ice pack, 1:12 Bonington, Chrls, B:449 Realism (In drama), R:160 Ice shelf Antarctica (Coastal waters), A:440 I-Kiribati [people] Theatre picture on, T:205 ice skating, 1:13 with pictures Kiribati (People), K:287 ibuprofen [drug], 1:4 See also list of Related Articles I Sing the Body Electric! book by Icarus [astronomy] Bradbury! Safety (In winter sports), S:12 Asteroid, A:678 Bradbury, Ray, B:505 icarus [Greek mythology] Ice yachting I Thought of Daisy [work by Wilson] Aeroplane (History and development). See Iceboating Wilson, Edmund, W:261 Iceberg, 1:17 with pictures A:76 with picture I Wouldn't Have Missed It [work by Daedalus, D:3 **Iceberg lettuce** Lettuce (Kinds of lettuce), L:194 Nash! **ICBM** Iceboating [sport], 1:18 with pictures Nash, Ogden, N:26 Guided missile (Ballistic missiles), lambic pentameter [poetry] CHAOR

ice Age, The [work by Drabble]

Ice Age, I:6 with pictures and map

Drabble, Margaret, D:278

Refrigeration, R:184 Icebreaker (ship), I:19 with picture

Ship (Specialized types of vessels),

Idiom [language], I:26

Petrol engine, P:334

Ignition temperature

Rocket, R:320

367

Month, M:580

Ides of March, The [work by Wilder]

Wilder, Thornton Niven, W:250

Iconoclastic controversy

S:381

Byzantine art (Frescoes and mosaics),

B:697

Idolatry, 1:27

Butterfly) O:470; (Tosca) O:473

Ilmenite [mineral], 1:34 Combustion, Ci:214 Illicium Itreel, L31 Titanium (Location of deposits), T265 Fire (How fire is produced), F:126 Illinois Itribel Iloilo (Philippines), I:34 Indian, American (Indians of the North-Iquacu Falls Argentina (The land; picture), A:557 east), I:152 ILS[instrument landing system] Aeroplane(Other navigation methods) Brazil picture on, B:540 Illinois [United States]. 1:31 with picture Iguana [reptile], 1:29 with picture and map Galapagos Islands, G:9 with picture Illinois Confederacy [people] I'm No Angel [film] West, Mae. W:155 Illinois (History), I:31 Iguanaea I'm Talking About Jerusalem play by Illiteracy, 1:32 Hackberry, H:3 See also Dyslexia; Literacy; Reading Wesker Iguanodon Wesker, Arnold, W:154 Dinosaur (Ornithischians), D:180; (Di-Illness as Metaphor [essays by Sontag] Image (light) nosaur discoveries) D:182: picture Sontag, Susan, So:42 Illuminance Lens (Converging lenses), L:174 with on D:179 Light (The brightness of light), L:263 diagram IGY Antarctica (International cooperation), Illuminated manuscript Magnetic resonance imaging (MRI) Illustration, E32 M:52 with picture A:444 lisselmeer Mirror, M:507 with diagrams Illuminated manuscript [illustration], Photography (Focusing the image), Netherlands, N:88 Hluminating gas, I:32 Ikeda, Kikunae [Japanese chemist] Telescope (What telescopes do), T:112 Monosodium glutamate (MSG), M:570 Illumination Foot-candle, F:317 Image [religion] Ikhnaton Illumination [books and manuscripts.] Icon, 1:24 Akhenaton, A:221 Idolatry, 1:26 Ikhwan (religious group), 1:30 Bible picture on, B:274 Il Prigioner Superbo (work by Per-Book (The Middle Ages), B:455 Image dissector Farnsworth, Philo Taylor, F:28 Byzantine art (Other art forms), B:699 aolesi] Pergolesi, Giovanni Battista, P:283 with picture Image intensifier Fluoroscopy, F:275 Il Riccio Chaucer, Geoffrey, C:358 Image orthicon (television) See Briosco, Andrea Communication (During the Middle Île-de-France [French history] Iconoscope, I:25 Ages), Cl:230 with picture Middle Ages (Feudal government), Crossbow picture on, Cl:456 Imagery Poetry, P:613 M:447 Europe pictures on, E:387, E:388 Shakespeare, William, S:323 Île de France [Mauritian history] Gothic art picture on, G:264 Imaginary Conversations book by Mauritius (History), M:270 Joan of Arc, Saint pictures on, J:121 Ileitis [disease], 1:30 Law picture on, L:114 Landorl Landor, Walter Savage, L:43 Ileum [anatomy] Manuscript (European manuscripts of Imaginary landscape No. 4 [music by lleitis, I:30 the Middle Ages), M:172; picture ilford on M:171 Cage Redbridge, R:175 Cage, John, C:14 Middle Ages pictures on, M:445, Illac artery M:446, M:450 Imaginary number Mathematics (Algebra), M:256 Artery (Principal arteries), A:605 Illuminations, Les [work by Britten] Square root (Square roots of negative Illad [poem by Homer], 1:30 Britten, Benjamin, B:582 See also list of Related Articles numbers), So:245 illuminations, Les [work by Rimbaud] Achaeans, A:23 Imagination, I:34 Rimbaud, Arthur, R:277 Aegean civilization, A:67 Illusion Imagists [art] Painting (Abstract expression(sm), Page Agamemnon, A:155 Magician, M:48 Imagists (literature) Alexander the Great (His boyhood), Perception, P:280 American literature (Modernist po-A:244 Illusionist Epic, E:311 Magician (Illusions), M:48 etry), A:317 Doolittle, Hilda, D:267 Fiction (History), F:69 Illusions Greek language (Development of an-Lowell, Amy, L:406 Mental illness (Organic disorders), Poetry (Poetry of the 1900's), P:616 clent Greek), G:356 M:351 Greek literature (Epic poetry), G:357 Imago [entomology], 1:35 Illustrated Man, The book by Brad-Insect (Growth and development), Homer, H:254 bury] Mythology (Greek mythology), M:756 Bradbury, Ray, B:505 1:254 Poetry (Narrative poetry), P:610; (An-Illustration [art], 1:32, with picture Imago [dance] Dancing picture on, D:21 cient poetry) P:613 See also list of Related Articles Caxton, William, C:288 Imam Frog picture on, F:465 Encyclopedia (Illustrations), E:236 Islam, 1:416 Ismaili Muslims, 1:425 Hip, H:217 Printing, P:781 Pelvis, P:250 Illustrations of Political Economy Shiites, S:359 Ill Made Knight, The [book by White] lmam Bonjol, 1:35 [book by Martineau] White, T. H., W:232 Martineau, Harriet, M:232 Imamah [clothing] Sudan (Clothing), So:382 Illawara, t:31 Imhotep (Egyptian doctor), I:35 Illawarra shorthorn (cattle), I:31 Medicine (Origins in the Middle East) Albania (History), A:230 Bosnia-Herzegovina (History), B:475 Illegitimacy Croatia (History), Cl:446 M:313 Australia, History of (Families), A:805 Illica, Luigi [Italian librettist] Illyricum (Roman Empire), 1:34 Imitation Education (History), E:89 Ilmen, Lake Opera (Bohème, La), 0:467; (Madama

See Lake Ilmen

Imitation [music]

Bach, Johann Sebastian (His works). R:16

Imitation gem

Gem. G:73

imitation of Christ book by Thomas à Kempis]

Thomas à Kempis, T:223

imitations of Horace [poem by Pope] Pope, Alexander, P:680

imitative counterpoint [music]

Classical music (The Renaissance period), Ci:59

Counterpoint, Ci:392

Initative magic

Magic (Kinds of magic), M:45

immaculate Conception, The [painting by Murillol

Murillo, Bartolomé Esteban, M:706 with picture

Immaculate Conception (religion), 1:35 Annunciation, A:425

Duns Scotus, John, D:350

Plus IX. P:529

Immersion foot, 1:35

Immigration, 1:34 with pictures See also list of Related Articles

Australia, History of, A:810 picture on

Canada, History of (Progress under Laurier), C:102; picture on C:104

New York City (The growing city), N:151

Singapore (Treatment of immigrants), S:449; (Immigrants' contributions) S:450

Immoralist, The [book by Gide] Glde, André, G:156

immortal Memories (film by Eisenstein) Elsenstein, Sergei Mikhailovich, E:135

Immortality

Death, D:58

Egypt, Ancient (Religion), E:122 Mythology (Mythical beings), M:752 Plate (Immortality of the soul), P:591

Immortelle, I:37

Immovable feast (religion)

Calendar (The calendar today), C:34 Immovable joint (anatomy)

Human body (The skeletal system),

immune giobulin (physiology)

Gamma globulin, G:26 immune reaction

Disease, D:196

Immune response

immune system, I:38; (Cells of the immune system) 1:38

Immune system, 1:38

See also list of Related Articles Aging (Signs of aging), A:159

AIDS, A:179

Mology (Current research and issues), B:308

Blood (Protecting against disease), B:396

Cancer (in immunology), C:123 Disease (Immunological diseases), D:194

Interleukin, I:287

Monocional antibody, M:568

Multiple sclerosis, M:694

Myalgic encephalomyelitis (ME),

M:748

Thymus, T:234

Immunity

Allergy (How an allergy develops), A:273

Blood (Protecting against disease), B:396

Immune system, I:38

Pasteur, Louis (His work in medicine),

Prophylaxis, P:809

Thymus, T:234

Tissue transplant (Types of transplants), T:263

Virus (Virus diseases in human beings), V:406

Immunity from attachment

Nobility (In Great Britain), N:236

Immunization, I:44

See also list of Related Articles Baby (Health care and safety), B:10 Disease (Preventing disease), D:197 Drug (Vaccines), D:312 Health (Public health), H:96 Immune system, I:38

Immunogiobulin

Immune system (The immune response), I:39

Immunological disease

Disease (Noninfectious diseases),

D:193

Immunology [medicine]

Biology (table), B:305

Cancer (Cancer research), C:123 Disease (Immunological diseases), D:194

Drug (The drug revolution), D:318 Immune system, 1:38

Medicine (The specialities), M:311; (The development of immunology) M:316

Immunosuppressive drug

Drug, D:314

Immune system (The immune response), I:41

Impact [physics]

Motion (Momentum and kinetic energy), M:647

Impact crater

Meteorology (Impact craters and basins), M:381

Impact extrusion Extrusion, E:434

Impact vehicle

Space exploration (Space probes), So:142

Impaia [animal], I:45 with picture Animal picture on, A:402 National parks picture on, N:37

Impeachment [law] Johnson, Andrew, J:132

President of the United States (The presidency), P:765

impedance

Ohm's law, 0:419

Impeller

Pump (Centrifugal pumps), P:853 with

diagram

Imperative mood (grammar)

Conjugation, Ci:286

Mood (grammar), M:582

Sentence (Sentence classifications). S:257

Imperfect flower

Flower (Variations in flower structure), F:262

Plant picture on, P:555 Pollen (Self-pollination), P:656

Imperial angelfish

Fish picture on, F:163

Imperial British East Africa Company Kenya (British rule), K:230

Imperial Charter Oath

lapan (Meiji period), J:57

Imperial Chemical Industries (ICI), 1:45

Manufacturing (table), M:168

Imperial City

Beijing (The city), B:204 with pictures and maps

Imperial Conference [British history] Canada, History of (Independence),

Commonwealth of Nations (History),

imperial gallon (unit of measure)

Gailon, G:17

imperial gauge

Wire (Sizes of wire), W:277

Imperial Palace

Tokyo, T:284 with picture

Imperial Period

Latin literature, L:99

imperial preferences (trade), 1:45 imperial topaz

Topaz, T:299

Imperial units

Weights and measures (tables), W:137 imperial Woman (book by Buck)

Buck, Pearl S., B:608

Imperialism, 1:45

Communism (Lenin's contributions),

World, History of the, W:355 (The birth of new nations) W:358

Impetigo, 1:46

Skin (Infections), S:470

Implant (pregnancy)

Reproduction (Development), R:226

Implied warranty

Consumerism (The right to quality), Ch312

Implosion-type fission bomb Nuclear weapon (Fission weapon), N:335 with picture

Import

See Exports and imports

Import duty

International trade (Government trade policies), 1:297

Importance of Being Earnest, The [play by Wilde]

Wilde, Oscar, W:249 Impression

Engraving (Printing the engraving),

E:296

In Dubious Battle [book by Steinbeck]

In Fires of No Return [poem by Baxter]

Family (Family relationships), F:20

Steinbeck, John, So:312

Baxter, James K., B:161

Incantation In Memoriam (poetry by Tennyson) Fossil (How fossils form), F:371 with Magic (Elements of magic), M:45 Elegy, E:195 picture Tennyson, Lord (His life), T:150 Incapacitation Impressionism, 1:46 with pictures Prison (How prisons operate), P:789 In our Time work by Hemingway Australia, Art and architecture of (Im-Incarnation (religion) Hemingway, Ernest, H:148 pressionist painters), A:782 with Annunciation, A:425 In Place of Dollars [book by Wilson] Incendiary bomb Wilson, Lord, W:260 Classical music (The 1900's), Cl:62 Bomb, B:435 with picture Expressionism, E:431 In the Beginning [novel by Douglas] Incense, I:51 France, F:403 Douglas, Norman, D:273 Frankincense, F:425 German literature, G:110 In the Castle of my Skin book by Lam-Monet, Claude, M:546 Incentive bonus mingl. L:35 In the Clearing Ipoem by Frostl Bonus. B:452 Morisot, Berthe, M:607 with picture Incest Painting, P:76 with pictures Frost, Robert Lee, F:471 Abortion (Arguments for abortion). Pissarro, Camille, P:522 with picture "In the Ghetto" [song] Presley, Elvis, P:770 Realism (In painting), R:160 Family (Family relationships), F:20 In the Shadow of Tomorrow book by Renoir, Pierre Auguste, R:222 with Huizingal Marriage (Marriage in other cultures), picture South Africa, Art of, So:71 Huizinga, Johan, H:345 Taboo, T:4 impressment of seamen In the South Seas (book by Stevenson) inch lunit of measure], 1:52 with pictures Stevenson, Robert Louis (Other writ-Kidnapping, K:244 Duodecimal numerals, D:351 **Imprint** ings), So:322 Metric system (History), M:389 Fossil (How fossils form), F:371 with In the Steppes of Central Asia (music picture by Borodini Inchcape Rock, I:51 Imprinting Borodin, Alexander, B:471 Inchon (South Koreal, I:51 Instinct, 1:266 In vitro fertilization [biology] Inchworm **Imprisonment** Fallopian tube, F:16 Measuring worm, M:296 Moth (Measuring worm moths), M:60 Law enforcement, L:117 Fertilization, F:59 Impromptu speech Infertility (Treatment), 1:229 Incidental music Classical music (Orchestral music), Public speaking (Outline), P:843 Reproduction, Human (Fertilization), Improper fraction 0.227 Cl:56 Fraction, F:388 Test tube baby, T:161 with diagram Opera, 0:456 Improved clinch knot Incineration Inadmissible Evidence (play by Os-Waste disposal (Methods of waste dis-Fishing (Two basic fishing knots) picborne posal), W:65 ture on, F:185 Osborne, John, 0:509 Improvisation Incinerator, 1:52 Inarching Waste disposal (Methods of waste dis Classical music (Free form), Cl:58 Grafting (Other kinds of grafting), Drama (Commedia dell' arte), D:291 CH284 posal), W:65 lazz, J:73 Inbreeding Incision Surgery (A typical operation), So:438 Improvisations on an impromptu of Hybrid (Producing hybrids), H:393 Benjamin Britten music by Wal-Livestock (Breeding livestock), L:339 Incisor Beaver (Teeth), B:177 with picture Inca [South American Indians], 1:48 with Walton, Sir William, W:29 Elephant, E:204 pictures and maps Goat (Digestive system), G:222 See also list of Related Articles **Impulse** Rodent, R:329 with picture Brain (The chemistry of the brain), Architecture (Pre-Columbian architec-Teeth (Permanent teeth), T:90 with plu ture), A:520 Nervous system (How the nervous sys-Bolivia (History), B:429 ture Inclined orbit [astronomy] tem works), N:81 with diagrams; Chinchilla, C:466 Space exploration (Kinds of earth or (How neurons carry impulses) Maize (History), M:75 bits), So:131 with diagram N:83 with diagrams Panama (The Spanish colonial period), Inclined plane, I:52 with picture Impulse turbine P:119 Canal (Britain and Ireland), C:110 Turbine (Kinds of turbines), T:447 with Potato (History), P:720 Machine, M:13 with picture diagrams Road (In the Middle Ages), R:299 Impulsive sound Inclinometer, 1:52 Vicuña. V:367 Sound (Noises), So:47 World, History of the (Civilizations in Incoherent light Laser (Characteristics of laser light) Imputed income the Americas), W:347 with picture Income, 1:52 L:72 Incandescence Imran Khan (cricketer), I:47 Income, I:51 Luminescence, L413 See also list of Related Articles In Cold Blood [book by Capote] Incandescent lamp American literature (Fiction and other Capitalism, C:145 Edison, Thomas Alva (The electric Cost of living, Ch:373 prose), A:320 light). E:81 Economics (Distribution of incomes) In Defence of the Earth work by Rex-Electric light, E:149; diagram on E:151 E:62; table on E:65 Great Depression (Uneven distribution rothl Electric power (Early developments), Rexroth, Kenneth, R:247

Electricity picture on, E:165; (Effects of

electricity) E:170 with picture

Lighting (Lighting devices), L:270 with

Invention picture on, I:312

pictures

Projector, P:799

of income), Ci:319

Bond (Kinds of bonds), B:444

National income, N:37

Poverty, P:728

Income fund (finance)

Income bond

Unit trust, U:38 income growth Income, I:53 Income tax Economics (Public services), E:63 Taxation, T:69; (History) T:70 incomplete dislocation [injury] Dislocation, D:199 Incomplete metamorphosis Metamorphosis (Other examples), M:378 Incomplete proteins Nutrition (Proteins), N:363 Incontinence Bladder, B:382 incorporation [law] Corporation, Ci:364 heorporation (sociology) Minority group (How a group becomes a minority), M:500 Rite of passage, R:268 Incubation, 1:53 Animal, A:406 with picture Reptile (Reproduction), R:233 Incubation period Disease (table), D:190 Incubator, 1:53 with pictures Chicken (Breeding and hatching), C:398 with picture Hospital picture on, H:314 Incubation, 1:53 with pictures Incumbrance Encumbrance, E:235 Incunabula Book (The development of printed books), B:455 Library of Congress, L:236 Indefinite article Article, A:610 indefinite pronoun Pronoun, P:801 indemnity insurance, L:272 Indentured labour Barbados (History), B:103 Indentured servant, 1:54 Colonial life in America (Colonial society), Cl:179 Immigration (1700-1820. Colonies and convicts), 1:36 Plantation (Slave-labour plantation), P:574 Westward movement, W:197 Indentured worker Trinidad and Tobago (History), T:407 West Indies (Slavery and rebellion),

W:171

Independence Day, 1:54

Independence Hall, I:55

Independence, War of

Independence (ship)

fleet), A:205

ology]

See American Revolution

Independence, Declaration of

See Declaration of Independence

Aircraft carrier (The modern carrier

Index (mathematics) Root, R:394 countries), S:239 Index (reference), 1:55 Book (Inside a book), B:454 Encyclopedia (Arrangement of con-Suttee, So:451 tent), E:236; (Indexing) E:237 Map (Reading a map), M:184 with dia-Telephone, T:108 Television, T:126 Index Librorum Prohibitorium, 1:55 Theatre, T:203 Trade unions, T:329 Index of refraction [physics] Village, V:393 Gem. G:70 Refraction, R:183 Index term Information retrieval, 1:232 India rubber Indexation (economics) Cost of living, Cl:373 diagram and table pictures India, 1:56 See also list of Related Articles Alexander the Great (Victory in India), pictures A:245 Asia (People), A:624; (Way of life In South Asia) A:633; (Other struggles) A:662 Assam, A:669 Aviation (Aircraft nationality marks), and maps Birth control (Birth control today), B:368 Communism (In non-Communist countries). Ci:244 Cricket (Cricket in India), Ci:433 Crazy Horse, Ci:419 Da Gama, Vasco (Voyage to India), D:4 Drama (Asian drama), D:296 cultures), F:23 Education (Education in India), E:86 Inca. 1:47 Enclave, E:235 Famine (Causes of famine), F:24 Independence (city, United States), I:54 Flag picture on, F:205 Furniture, F:496 Ganges River, G:30 with picture and Girl Guides and Girl Scouts, G:170 Goa (History), G:220 Government (India's Constitution), ogy), M:762 G:274 Philip, King, P:366 with picture Gupta dynasty, G:430 Races, Human (The geographical-race Hockey, H:239 Independent Assortment, Law of Ibitheory), R:44 Immigration (1945-1960. Easing of im-Sculpture, S:205 with pictures migration rules), 1:37

Heredity (Genetic recombination),

Heredity (Mendel's laws), H:172

England (Way of life), E:266

Scotland (Way of life), S:160

Indeterminate [mathematics]

Algebra (Dividing), A:253

radio), R:79

Independent clause

Clause, Cl:69

Mendel, Gregor Johann (His work).

Independent Broadcasting Authority

London (Communications), L:372

Radio (Government regulation of

United Kingdom (Communication),

Indeterminate inflorescence (botany)

Inflorescence, 1:231 with diagram

14:168

M:345

(IBA)

Independence Day, I:54 Irrigation picture on, I:407 Local government, L:347 Medicine (History), M:313 Mountbatten, Louis, M:673 Nuclear energy (The spread of nuclear capability), N:330 Open University (Other institutions), D:455 Painting (Indian painting), P:48 Philosophy (Oriental philosophy), P-422 Police. P:641 Railway, R:106 with picture Royal families (Asia), R:420 Rupee, R:459 with pictures Science (Early civilizations), S:143 Scouting, S:180 Sculpture (As part of architecture), S:189 picture on S:190 Sculpture (Figurative form), S:216 Segregation (Segregation in other Space exploration, So:161 Standard of living (table), So:275 World, History of the, W:340, W:346 World War II (table: The Allies), W:381; (The China a a theatre) W:399 Goodyear, Charles, G:253 India, Armed services of, 1:79 with India, Art of, I:82 with pictures India, Dance and music of, I:92 with India, Government of, I:96 India, History of, I:102 India, Languages of, I:121 India, Literature of, 1:124 India, Philosophy of, I:130 Indian, American, 1:137 with pictures Aztec, A:898 with pictures and map Bolivia (History), B:429 Colonial life in America (Relations with the Indians), Ci:179 Family (Traditional families in other Language (Other language families), Latin America (Ancestry), L:77; (The conquest of the Indians) 1.:89 Latin-American literature (The 1800's), Music (American Indian music), M:736 Mythology (American Indian mythol-

Indian pipe (plant), I:171

Indian, American (The push for Indian

Indian Power

Indian python Python, P:878 with picture Indian Removal Act [1830] Indian, American (The destruction of Indian America), I:164 **Indian Reorganization Act** [1934] Indian, American (Indians in the early and mid-1900's), 1:165; Indian Revolt, I:171 Indian rhinoceros Animal picture on, A:385 Rhinoceros (Kinds of rhinoceroses), R:254; picture on R:253 Indian rugs Rugs and carpets, R:452 Indian runner Duck picture on, D:340 Indian Territory [U.S.], I:172 with map Indian turmeric Goldenseal, G:241 Indian wars, 1:172 with pictures See also list of Related Articles Indiana [U.S.A.], 1:178 with picture and Indiana Iones (film character) Film Industry (Changes in Hollywood), F:106 with picture Lucas, George, L:410 Indianapolis (U.S.A.), I:179 Indians See Indian, American Indica rice Rice (Kinds of rice), R:263 **Indicated horsepower** Horsepower, H:310 Indicative mood (grammar) Conjugation, Ci:286 Mood [grammar], M:582 Indicator (chemistry) Litmus, L:332 pH, P:356 Indicolite Tourmaline, T:313 Indictable offence Indictment, 1:179 Indictment, I:179 Indies East Indies, E:41 Exploration (The great age of European discovery), E:420 West Indies, W:163 with pictures and maps indigestion, I:179 Indigo, I:179 Colonial life in America (Crops), Ch:184 Dye (Natural dyes), D:362 Indigo bunting (bird), 1:180 with picture Bunting, B:645 Indigotin See Indigo Indirect business taxes National income (Determining national income), N:35 Indirect-contact freezing Food, Frozen, F:303 Indirect extrusion

Extrusion, E:434

rights), I:166; (In the United States)

Hypnotism (Inducing hypnotism). H:414 Indirect ophthalmoscope Ophthalmoscope, 0:476 Indirect primary Primary election (Direct and Indirect). P:777 Indirect screening process Printing (Process colour printing), P:785 Indirect tax Taxation, T:69 Indium lelement), 1:180 Individual [philosophy] Existentialism, E:415 Individual differences Clothing (Protection), Ci:90 Personality, P:299 Individual rights Government, G:271 Individualism Political science (Liberalism), P:654 Indo-Arvans (people) Asia (The people), A:633 Mythology (Generic relationships), M:753 Indo-Chinese forest ox Kouprey, K:333 with picture Indo-European languages Africa, A:124 Arvans, A:617 India, Languages of, 1:122 Language, L:52 with map and diagram Indo-Europeans (people) Aryans, A:617 Mythology (Genetic relationships), M:753; (Roman mythology) M:759; (Celtic mythology) M:760 World, History of the (The advance of civilization), W:336 Indo-Iranian (language) Aryans, A:617 Indo-Saracenic style Sculpture (India), S:197 Indochina, I:180 See also list of Related Articles Foreign Legion, F:341 France (The Fourth Republic), F#16 Guerrilla warfare (History), G:404 indochina War [1946-1954] Dien Bien Phu, Battle of, D:168 Indochina (Independence), I:181 Vietnam (The Indochina Warl, V:380 Indochinese tiger Tiger (The rare tiger), T:245 Indonesia, I:182 with pictures and maps Agriculture picture on, A:162 Asia (Education), A:637; (The arts) A:637; picture on A:636 Association of Southeast Asian Nations (ASEAN), A:673 Aviation (Aircraft nationality marks) A:881 Batik. B:152 Borneo, B:469 with picture and map Communism (in non-Communist count tries), Ci:244

Education, E:86

Indirect induction

Flag picture on, F:205 Government, G:274 Hat picture on, H:76 lakarta, J:13 with picture Malays, M:81 Music (Indonesian music), M:735; picture on M:736 Netherlands (Recent developments), N:100 Orchestra picture on, O:489 Pancasila, P:127 Sculpture (Pacific Islands sculpture), S-204 Standard of living (table), So:275 Telephone, T:108 Television, T:126 Timor, T:257 Trade unions, T:330 Wayang, W:107 Indonesian music Music, M:735; picture on M:736 Indonesians (people) Indonesia (People), 1:184 New Caledonia (The Indonesians and Vietnamese), N:107 Indoor air pollution Environmental pollution (Kinds of environmental pollution), E:303 with diagram; (Indoor air pollution) Indoor garden Gardening (Kinds of Indoor gardens), G:40 Indoor lighting Photography pictures on, P:446 Indoor-outdoor polo Polo, P:658 Indoxyl Indigo, 1:179 Indra (Hindu god) Mythology (Genetic relationships), M:753 Lemur, L:167 Induced drag [aerodynamics] Aerodynamics (Principles of aerody-

Indel

namics), A:72

Inductance, I:205 Henry, H:154

Magnetism (Magnetism and electricity), M:56

Induction coil, 1:205 with diagram Geissler tube, G:69 Ignition (Parts of an ignition system), 1:28

Inductance, 1:205

Petrol engine (Ignition system), P:334 Induction, Electric, 1:205

Electricity (Static electricity), E:167 with picture induction, Electromagnetic

See Electromagnetic induction Inductive method (logic), 1:205 Bacon, Francis (His philosophy), B:18 Bacon, Roger (His work), B:19

Logic, **L:361** Philosophy (Logic), P:421

Reason, R:161 Science (Mathematics and logic), S:139 Inductor

Electronics (Passive components), E:189

Indulgence [religion], 1:205

Luther, Martin (The Ninety Five Theses), L:419

Reformation (Martin Luther), R:181 with picture

Roman Catholic Church (The Reformation), R:341

Tetzel, Johann, T:166

Indus River [Pakistan], I:206 with map Asia (The Indus Valley), A:657

Cotton (History), Ci:388

Jammu and Kashmir (Rivers and lakes), 1:26

Lake (Irrigation), L:19 River (table), R:290

Indus Valley civilization, 1:206 with

pictures and map Asia, A:657

City (Ancient cities), Ch22

Cymbal, Ci:512 India, History of (The Indus Valley people), E102 with pictures

Pakistan, P:98

Prehistoric people (The rise of agriculture). P:758

Sculpture (Prehistoric sculpture), S:197; (Indus Vailey) S:196

Village, V:393

World, History of the, W:335

Industrial arbitration See Arbitration

Industrial chemistry

Chemistry (Growth of Industrial chemistry), C:372

Industrial city

City, Cl:29 with pictures

Industrial Democracy book by

Webbsl

Webb, Sidney and Beatrice, W:127 Industrial design, I:207 with picture

Industrial diamond

Diamond, D:153; (Industrial uses) D:155; (Synthetic diamonds) D:155

Industrial dispute Industrial relations, 1:209

Industrial engineering

Engineering, E:256

Industrial espionage, I:208 **Industrial literature**

Russian literature (The period of industrial literature), R:500

Industrial organization Industry, 1:224

Industrial pollution

Environmental pollution, E:300 with pictures

Water pollution (Industrial wastes), W:88; (Pretreatment of wastes) W:90

Industrial psychology, I:208 Human engineering, H:360

Psychology (Major fields of psychology), P:828

Industrial relations, 1:209 Personnel management, P:301 **Industrial** research

Manufacturing (How science helps manufacturing), M:170

Industrial Revolution, The book by Toynbee!

Toynbee, Arnold, T:322

Industrial Revolution, I:210 with picturec

See also list of Related Articles

Architecture, A:530

Canal (Britain and Ireland), C:110

City (Industrial cities), Ci:29 with pic-

Clothing (The 1700's), Cl:103

Coal (Developments in England), Ci:133

Conservation, Ci:300 with picture Democracy (The spread of democracy), D:104

Energy supply, E:250

Environmental pollution, E:300; (History) E:308; (The growth of pollution). E:308

Europe, E:389 with picture

Family (The family in Western Culture), F:22

Handicraft, H:48

Housing, H:330 Invention, 1:319

London (The world's largest city), 1:373

Sheiter, S:352 Socialism, So:8

Textile, T:175

Town planning, T:319

Wages and hours (Hours), W:2

Women's movement (Industrialization), W:295

World, History of the, W:354

Industrial technology

Technology, T:83 Industrial union

Trade unions, T:329

Industrial waste

Environmental pollution (Kinds of environmental pollution), E:302 with

diagram

Water pollution, W:88 Industry, I:220 with pictures

See also list of Related Articles

Bombay, B:441 Colonial life in America, Cl:186

Communication, Cl:228

Doll (Rivalry in the doll industry), D:247; (The doll industry today)

D:249 with pictures

Genetic engineering (In medicine),

Gold (Gold In Industry), G:233

Human being (Industrial societies),

Leipzig, L:163

Maize (Industrial uses), M:71; (Maize in industry) M:74

New York City, N:149

Singapore (Economic development), 5:450

Tokyo, T:285

United States, History of the (Industrialization and reform), U:252 with

picture	Infectious bronchitis	Comparison, Cl:248
inert gas	Poultry (Raising poultry), P:727	Declension, D:72
Helium, H:143	Infectious disease	English language (Grammar), E281
Noble gas, N:237	Brain, B:517	Grammar, G:287
Inert pigment (paint) Paint, P:23	Disease (Infectious diseases), D:190 Infectious mononucleosis	Inflorescence (botany), k:231 with pic- ture
Inertia (physics), I:226	Glandular fever, G:184	Influence
Centripetal force, C:324	Inference	Power (Forms of power), P:731
Gyroscope (Gyroscopic inertia), G:445	Intuition, I:299	Influenza, I:232
with diagram	Philosophy (Logic), P:421	Disease (table), D:190
Mass, M:244	Statistics (Reporting the results),	Virus diagram on, V:407
Matter, M:263	So:303	Informal flower garden
Motion (The first law), M:647	Inferior court	Gardening (Kinds of outdoor garden)
Inertia welding	Australia, Legal system of, A:827	G:35
Welding (Deformation bonding), W:143	Inferior vena cava Circulatory system (In respiration), Ci:7	Information bank Research (Studying existing informa-
Inertial air cleaner	Heart (Blood vessels), H:102	tion), R:236
Air cleaner, A:189	Human body (The blood vessels),	Information
Inertial guidance, I:227 with diagram	H:356	Consumerism (The right to informa-
Aeroplane (Other navigation methods),	Vein, V:324	tion), Ci:313
A:103	Infertility, I:228	Industry (How industries are classi-
Guided missile (Preset guidance),	Birth control, B:367	fied), I:224
G:409	Infield	Library (The growth of information),
Gyroscope (History), G:446	Basebali, B:126	L:213
Navigation, N:55	Infinite series	Information boom
Submarine (Ballistic missile subma-	Binomial theorem, B:297	Library (College and university librar
rines), So:370	Mathematics (Calculus and analysis),	les), L:221
Inertial navigator (instrument)	M:256	Information retrieval, I:232
Inertial guidance, I:227	Series (Working with infinite series),	Computer (Storing and retrieving in-
Inertial reference system	S:270	formation), Cl:254; (Storing infer
Inertial guidance (How inertial guid-	Infinite set	mation) Ci:260; (Research and
ance works), I:227	Infinity, I:229	development) Cl:263
Infallibility	Set theory (Finite sets and infinite sets),	Index, I:55
Fundamentalism, F:483	S:275	Library, L:210
Pope (The powers of the pope), P:673	Infinitesimal	Information science
Roman Catholic Church (Vatican Coun-	Mathematics (Calculus and analysis),	Library, L:224
c(i i), R:343	M:256	Information service
Vatican Council I, V:318	Infinitive [grammar], I:229	Library (Assisting the user), L1212
Infant	Infinity [mathematics], I:229	(Special libraries) L:224
See Baby	Calculus (Finding areas), C:26; (The	Information Society, The Library (The growth of information),
Infant botulism	definite integral) C:27	Library (The grown of months
Botulism, B:486	Inflammation (disorder), 1:229	L:213
Infant Christ, The Isculpture by Wheeler	Heart (Inflammatory heart disease),	Information system Management information system,
	H:109	
Wheeler, Sir Charles, W:227	Skin, \$:470	M:141 Information theory, I:233
Infant mortality, 1:228 Baby, B:4; table on B:10	Inflammatory colitis [disease]	Communication (Cybernetics and #
Sudden infant death syndrome,	Colitis, Ci:163	formation theory), Cl:237
So:385	Inflammatory heart disease Heart, H:109	CLEGG
Infant mortality rate	Inflatable rescue boat	Library (Information science),
Birth and death rates, B:366	Surf lifesaving, So:434	
Infantile paralysis	Inflation, 1:229 with picture	Irish literature (Fiction and poetry)
See Poliomyelitis	See also list of Related Articles	1:384
Infantry, I:228	Capitalism (Economic instability), C:146	0.617
Infection (disorder)	Consumer Price Index, Ct:312	
Abscess, A:15	Credit (Credit and the economy),	Astronomy (Space exploration),
Blood, B:400	Ci:420	Astronomy (Space explorational Telescope (Infrared telescopes), Tiff
Boil, B:421 with <i>pictures</i>	Economics (Economic stability), E:63;	Vega, V:320
Disease (Infectious diseases), D:190	table on E:65	- (Inveries
Gamma globulin, G:26	Germany (The Weimar Republic),	Thermography, T:215 with picture
Lister, Sir Joseph, L:307	G:135 with picture	Infrared photography
Lymphatic system (Fighting infection),	National income (Determining national	Geography (The use of scientific in
L:426	income), N:34	struments), G:89
Pus, P:867	Rationing, R:143	struments), G:89 Satellite, Artificial (Weather satellites
Skin, S:470	Taxation (Elasticity), T:70	S:97
Surgery (Antiseptics and asepsis),	United States, History of the (Postwar	Infrared rays, I:233
So:437	society), U:260	Burglar alarm, B:650
Virus (How a virus infects an orga-	Inflection [grammar], I:231	Burglar alarm, B:650 Colour (The relation between colour colour (The relation between colour colour (The relation between colour
nism), V:406	Case, C:224	Colour (The relation between and light), Ci:192 with diagram
-		

Electromagnetic waves (Uses of electromagnetic waves), E:176 with di-Gas (Gas in industry), G:49 Greenhouse effect, G:360 Heat (Radiation), H:118 with picture laser (Gas lasers), L:73 Hight (Electromagnetic waves), L:259 Maffei galaxies, M:39 Remote control, R:212 with picture Remote sensing, R:213 Thallium, T:186 Infrared spectrometer Instrument, Scientific (Spectrometers), 1:261 infrared telescope Astronomy (Observing with telescopes), A:693 Telescope, T:115 Infrasound [physics] Acoustics (Other areas of acoustics), Sound (Recent developments), So:54 Infringement [law] Patent (How patents protect inventors), Ingamells, Rex [Australian writer] Australia, Literature of (Modern short stories). A:832 Inge, William [American playwright], Ingham (Australia), 1:233 Ingold, Sir Christopher Kelk (English chemist], 1:233 Aluminium (Casting the molten aluminium), A:292 with diagram Assaying, A:671 Brass (Making brass), B:524 Bullion, B:642 Iron and steel (Ingot casting), 1:395 with diagrams Magnesium (How magnesium is obtained), M:51 ingot casting fron and steel, 1:395 with picture Ingres, Jean Auguste Dominique |French artist|, 1:233 Painting (Neoclassicism), P:68 with picture Inguri dam (Georgia) Dam (table), D:13 Inhalants Drug abuse (Abuse of legal drugs), D:320 Inheritance [biology] See Heredity Inheritance [law] Genealogy, G:75 Law, L:110 Nobility, N:236 Primogeniture, P:778 Will, W:254

Inheritance tax

his [island], 1:234

Initial velocity

Taxation (Other taxes), T:70

initial teaching alphabet (education),

Ballistics (Interior ballistics), B:59 Initiation Australian Aborigines, A:838 Indian, American (Children), I:138; (The quardian spirit) 1:148 Nuer. N:341 Initiation ceremony Education (History), E:89 Initiative [law] Law (By direct action of the people), L:112 Initiative (politics) Populism (Influence of populism), P:687 Injection Hypodermic injection, H:416 with pictures Insecticide (Spraying and dusting), 1:264 Intravenous injection, 1:299 See also Fuel injection Injection moulding Plastics (Making plastic products), P:581 with pictures Injera (food) Ethiopia (Way of life), E:339 Injunction (law), I:234 Equity (Principles of equity), E:317 injury Brain, B:517 Bruise, **B:598** Burns and scalds, B:664 First aid. F:141 Sprain, So:239 Whiplash, W:228 with picture See also Safety Ink, 1:234 Drawing (Materials and techniques), D:304 with picture Invisible ink, 1:324 Pen, P:250 Stamp collecting, So:271 Pen (Ballpoint pen), P:250 Zulu, Z:509

Ink reservoir Inkatha Freedom Party (IFP), I:235 Buthelezi, Mangosuthu Gatsha, B:677

South Africa (Political parties), So:58 Inland revenue, I:235

Inland Voyage, An [book by Stevenson] Stevenson, Robert Louis (Early life),

inland waterway [transportation], I:235 with picture See also list of Related Articles

Belgium picture on, B:220 Canal, C:108 with pictures and dia-

England (Rivers and lakes), E:271 Industrial Revolution, 1:215 Inlay [design], 1:236 with picture

Hotel (History), H:319

Public houses, P:834 with pictures Inner bark

Bark, B:110 with pictures Tree (Trunk and branches), T:377 with diagram Inner core

Farth (inside the earth), E:20 with diagram

Inner ear

Deafness (Types of hearing disorders), Ear (Parts of the ear), E:7 with dia-

grams; (How sounds travel to the inner ear) E:9 with diagram

inner Hebrides [islands, Scotland] Hebrides, H:131

Inner Temple

Inns of Court, 1:237

United Kingdom, Legal systems of the (The legal profession), U:156

Inner tube

Tyre (History), T:491

Innes, John British property dealer,

Inness, George [American painter], 1:236

Innings

Cricket (The game), Ci:426 Innisfail (Australia), 1:236 Innocence [flower]

Bluet, B:411

Innocent III [pope], I:236

Crusades (The Fourth Crusade), Cl:464 Langton, Stephen Cardinal, L:49 Pope picture on, P:676; (The peak of papal power) P:677

Roman Catholic Church, R:340

Innocent IV [pope], I:237 **Exploration (East-West contact** resumes), E:419

Innovation

Queen's Awards for Export and Technology, Q:12 with picture

Inns of Court, I:237 with picture London (Other places of interest), L:371

Innsbruck [Austrial, I:238 Austria (Ancestry and population),

A:859 with map

Inoculation [medicine], 1:238 See also list of Related Articles Antitoxin, A:465

Inorganic chemistry Chemistry (table), C:368 Science (Chemistry), S:140

Inorganic compound Compound, Ci:250

Matter (Structure of matter), M:264 Nutrition (Minerals), N:364

Inorganic insecticide Insecticide, 1:264

Inosito [vitamin]

Lipid (Complex lipids), L:303

input leconomics)

Business (Productive resources), 8:673 Industry (What industry needs for production), I:220

Input [information]

Automation (How automation works). A:874

Computer (table), Cl:257 Input equipment [electronics]

Computer, Cl:252; (How a computer operates) Ci:256; (Entering and encoding data and instructions) Ci:258 with diagram

Oats (Diseases and insect pests), 0:378

Potato (Diseases and insect pests),

See also list of Related Articles

P:720

Insecticide, I:263

Malaria (Treatment and prevention), See Hospital; Library; Museum; Univ Input-mix versities and colleges Industry (Management), 1:222 Mt/79 Instructions of Ptah-hotep, The work Input-output analysis [economics], Pesticide, P:318 Typhus (Treatment), T:489 by Ptah-hotep] 1:236 with diagram Etiquette (Books on etiquette), E344 Input stage Virus (How viruses are used), V:407 Instrument landing system (ILS) Electronics (How an electronic system Insectivore, I:265 Aeroplane (Other navigation methods works), E:185 Mammal (What mammals eat), M:130 Inquest [law], I:239 Insectivorous plant, 1:265 A:103 See also list of Related Articles Instrument of Government Australia, Legal system of (Coroners' Insensible perspiration England (The Civil War), E:278 courts), A:828 Instrument of transfer Coroner, Cl:363 Perspiration, P:302 Inside calliper linstrumentl Conveyancing, Ci:318 Jury, J:173 Calliper, C:42 with picture Instrument panel Inquitinos Chile (Rural life), C:418 Inside the Whale [essay by Orwell] Aeroplane pictures on, A:92 Instrument, Musical Inquiry into the Causes and Effects of Essay (Personal essays), E:330 Jazz (The sound of jazz), J:73 with pic the Variolae Vaccinae book by Insight learning Learning, L:138 Insignia (badge), I:265 Music (Musical instruments), M:727 lenner, Edward, 1:83 Garter, Order of the picture on, G:46 Instrument, Scientific, I:267 with plo Inquisition [religion], 1:239 Galileo (Galileo and the Roman Catho-Knighthood, Orders of pictures on, tures lic Church), G:13 See also list of Related Articles Jews (Jews in Christian Europe), 1:114 Insolvency Instrumental conditioning Portugal (Years of decline), P:706 Bankruptev. B:95 Learning, L:137 Instrumental music Roman Catholic Church (Innocent III). Insomnia (disorder), 1:265 Classical music, Cl:55 with pictures Health (Rest and sleep), H:95 Spain (Union of the Spanish King-See also Sedative; Sleep Instrumental riot doms), So:183 Riot. R:285 Inspector Spanish literature (The 1500's), So:194 Instrumentalism Police (Police around the world), P:641 Torquemada, Tomás de, T:304 Inspector-General, The work by Dewey, John, D:150 Insanity llawl, 1:239 Pragmatism, P:736 M'Naghten Rules, M:521 Insufficiency Drama (Russian drama and Chekhov), Heart (Valvular disease), H:108 INSAT-2B (satel)itel D:298 Telephone (India), T:108 Insulation, I:268 Gogol, Nikolai, G:228 Camping (Sleeping bags), C:65 Inscription Russian literature (Late romanticism), Cork (Uses), Cl:356 Epitaph, E:313 Energy supply pictures on, E:251 Insect, I:240 with pictures Inspector Gideon [literary figure] See also list of Related Articles Heat, H:118 Creasey, John, Ci:419 Animal (Teeth and laws), A:399 House, H:325 Detective story (The pattern), D:136 Animal (Wings), A:396 Inspiration Taic. T:16 Antarctica (Animal life), A:440 insulation board Diaphragm, D:156 Forest products (Fibre products), Brain (in invertebrates), B:518 Lung (Gas exchange in the lungs), Cabbage, C:2 F:354 Insulator, Electric, 1:270 Cocoon, Ci:144 with picture Respiration (The process of breathing), Electric current, E:143 Cotton (Care during growth), Cl:385 R:239 Electricity (Principles of electricity), with picture Instalment plan E:168; (table) E:168 Entomology, E:297 with picture See Hire purchase Eye picture on, E:443 Instant camera Ohm, 0:419 Lac, Li7 Camera, C:58 with picture Insulators Electronics (Terms used in electron Lawn picture on, L:119 Instauratio Magna (work by Bacon) Leaf (Insect-capturing leaves), L:132 Bacon, Francis, B:18 ics), E:185 Moulting, M:654 Instinct, I:265 Insulin, I:271 Banting, Sir Frederick Grant, 8:96 Nervous system (In invertebrates), Dog (Behaviour), D:236 Best, Charles Herbert, B:262 N:85 Biology (Current research and issued Ethology, E:342 Plant (Plants that eat insects), P:566 Institute of France, 1:266 with picture; (How plants protect Institutes of the Christian Religion B:308 Diabetes (Diabetes mellitus), D:151 themselves) P:568; (Control of dis-[book by Calvin] Drug (Animals), D:316 eases and pests) P:568 Dwarf (Hormonal dwarfism), D:360 Calvin, John, C:44 Potato (Diseases and insect pests), Reformation (John Calvin), R:182 Genetic engineering (In medicine), P:720 Institutes |book by Gaius| G:81; (History) G:81 Prehistoric animal (The move onto Gaius, G:8 Growth (Factors affecting human iand), P:744; (table) P:745 Institutes [book by Justinian] growth), G:388 Heredity (The era of genetic engineer Reproduction, R:224 Gaius, G:8 Insect pests Justinian Code, 1:174 Hormone (Metabolic hormone), H270

Institutio Oratorio [book by Quintilian]

Oratory (Classical orators), 0:484

See Sociology (Social institutions)

Quintilian, Q:30 Institution

Human body (The endocrine system)

H:358

Hypoglycaemia, H:417

Agriculture, A:175

Institution, Public

Medicine (The medical revolution). Pancreas, P:127 insurance agent Salesmanship, S:49

Insurance, I:271 Insurance City Hartford, H:70

Intaglio lengravingl Offset. 0:415 Printing (Printing by gravure), P:784

Relief, R:194 Sculpture (Kinds of sculpture), S:190

Stamp collecting (Printing), So:271 Intake manifold

Car (The fuel system), C:154 Carburettor (The venturi tube), C:191 Petrol engine (Fuel system), P:334 Intake stroke

Diesel engine diagram on, D:169 Petrol engine diagram on, P:333 Integer [mathematics], 1:275

Infinity, 1:229 Logarithms (Common logarithms), L:361

Rational number, R:143 Integral appreciation [theory] Gamlo, Manuel, G:26 Integral calculus

Calculus, C:26 Mathematics (Calculus and analysis), M:256

Integral nationalism Nationalism (Different forms of nation-

alism), N:44 Integrated circuit, 1:275 Computer (Memory), Cl:260

Computer (Processing data), Cl:259; picture on Cl:260 Computer (The miniaturization of com-

puter components), Ci:266 Electricity (Electrons and electricity), E:172

Electronics, E:183

Electronics (Terms used in electronics), E:185

Electronics (Types of electrical circuits), E:186

Engineering (Electrical engineering), E:256

Invention (Recent developments), 1:320

Transistor, T:339 Integrated pest control system

Pesticide (Pesticides and the environment), P:319

Integrated pest management Environmental pollution (Agriculture), E:307

Integration Segregation, S:239

Integumentary system [physiology]

Human body (The skin), H:351 Intellect [psychology]

Plato (Psychology and politics), P:591 Intellectual magazine Magazine, M:40 with picture

Intellectual property World Intellectual Property Organiza-

tion. W:361 Intelligence, I:276

Animal table on, A:401

Child. C:406

Extraterrestrial intelligence, E:434 Horse, H:294

Mammal, M:130

Races, Human (Race and discrimination), R:49

Terman, Lewis Madison, T:155 Testing, T:163

Intelligence [information]

Central Intelligence Agency (CIA),

Codes and ciphers. Cl:147 Federal Bureau of Investigation (FBI),

E-1/4 KGB. K:241

Police (Records and communication), P:640: (Data processing and research offices) P:641

Intelligence officer

Police (Investigating crime), P:640

Intelligence quotient (IQ), I:277

Binet, Alfred, B:296 Child (Differences in intelligence),

C:406 Intelligence (What is intelligence?),

Mental retardation (Degrees of mental retardation), M:356

Testing, T:163

Intelligence service, 1:278

Australian Security Intelligence Organization (ASIO), A:855

Central Intelligence Agency (CIA), C:321

Federal Bureau of Investigation (FBI), E244

KGB, K:241

Radar (Intelligence gathering), R:56

Intelligence test

Intelligence quotient (IQ), I:277 Testing (Kinds of tests), T:163

Intelpost Post office (Post office services), P:713

INTELSAT (communications satellite) Satellite, Artificial (Important satellites),

Telephone (Australia), T:108; (South Africa) T:109

Intensity

Ear (The sense of hearing), E:9; (How sounds reach the brain) E:10 Lighting (Quantity of light), L:269 Photography, P:445

Sound (table), So:47; (Intensity and loudness) So:49; (Measuring sound) So:52 with diagram

intensity of rainfall

Rain (Measuring rainfall), R:115

Intensive care unit

Biomedical engineering picture on,

Hospital (Types of hospital), H:313 Medicine (in hospitals), M:309 Intentionality

Phenomenology, P:361 Inter-Allied Declaration

United Nations (The Founding of the UN), U:173 Inter-American conference

Pan-American conference, P:112 Inter-American Treaty of Reciprocal Assistance

Latin America (The movement to establish unity), L:92

Inter-Parliamentary Union, 1:298 Intercellular material

Collagen, Cl:163 Tissue (Animal tissue), T:263

Intercity service Transportation, T:357 with picture

Intercom [communication], 1:278 Intercontinental ballistic missile

(ICBM) Guided missile (Ballistic missiles),

G:408 Nuclear weapon (Strategic nuclear

weapons), N:338; (The Cold War)

Rocket (Military use), R:318

Intercostal space Rib. R:259

Interest (economics), I:278

Percentage, P:274

Interest inventory

Testing (Aptitude and interest tests), T:163

Interest test

Testing (Aptitude and Interest tests), T:163

Interference, I:280

Cable (Types of cable), C:4 Diffraction (How diffraction occurs),

D:170

Interferometer, I:281 Light, L:260 Sound (Beats), So:52 with diagram Waves, W:105

Interference fringe

Interference, I:280 with diagram Light (Interference), L:260 with diagram

Interference pattern Interferometer, I:281

Light (The nature of light), L:258

Interferometer (instrument), 1:281 Michelson, Albert Abraham, M:436 Radio telescope (How a radio telescope works), R:89

Interferon, I:281

AIDS (Treatments), A:180 Cancer (Other treatment), C:122 Cold, Common (Prevention), Cl:159 Disease (General defence reactions),

D:195

Genetic engineering (In medicine),

Heredity (The era of genetic engineering), H:174

Virus (Virus diseases in human beings), V:406

Interglossa [language] Universal language, U:265

Interior architecture Interior decoration, 1:282

interior ballistics

Ballistics, B:59

Interior decoration, I:282 with pictures See also list of Related Articles

Interior design

See Interior decoration

Interior environment Interior decoration, 1:282

Interior Highlands El Salvador, E:223

Interior lowlands

Uruquay, U:283

Interior monologue

lovce, lames, 1:152

Interior Plains

Canada, C:83

North America, N:250 United States, U:210

Interior Plateau

Iran, 1:336

Interjection, i:287

Interieukin (protein), I:287

Cancer (Other treatment), C:122 Oncology, 0:451

Interlingua, 1:287

Universal language, U:265

Interlude

Drama (Farces and interludes), D:290 Opera (The orchestra), 0:459

Intermediate Certificate Examination (Ireland), I:287

Intermediate colour

Colour (Producing colour harmony). CE198

Intermediate court

Australia, Legal system of, A:828 intermediate range ballistic missile

See Guided missile

Intermediate-Range Nuclear Forces (INF) Treaty

Gorbachev, Mikhail Sergeyevich (International policies), G:256 Nuclear weapon (Limiting numbers),

N:339

Intermediate response

Hydrofoil (Kinds of hydrofoils), H:401

Intermetallic compound

Gallium, G:17

Intermezzo imusical composition),

Drama (Intermezzi and operas), D:290 Opera (Opera buffa), 0:463

Intermittent motion

Film industry (The camera), F:91

Intermittent river

River (The source of a river), R:289

Intermodal transport

Transportation (Domestic freight),

T:358 with picture

Intermontane basins

Wyoming (Land), W:426

Internal colonialism

Minority group, M:501

Internal-combustion engine, I:288

Car (How a car works), C:153

Engine, E:253

Heat (Changing heat into motion),

Invention (The late 1800's), I:318 Lenoir, Jean Joseph Étienne, L:173 Petrol engine, P:331 with pictures See also Diesel engine; Rotary engine

Internal energy

Heat (Temperature and heat), H:117

Internal fertilization

Fertilization, F:59

Fish (How fish reproduce), F:176 Reproduction (Reptiles and birds),

R:224

Internal medicine

Medicine (The specialities), M:311

Internal respiration

Respiration, R:239

Internal waters

Territorial waters, T:158

International Air Transport Association (IATA), I:288

Aviation (Other aviation organizations), A:881

International Atomic Energy Agency (IAEA), 1:288

Eisenhower, Dwight David (First administration), E:133

Nuclear energy (The first peaceful uses). N:330

United Nations (Peaceful uses of nuclear energy), U:172

International Bank for Reconstruction and Development

See World Bank

International banking

Bank (Banks around the world), B:93

International Bureau of Weights and Measures, I:288 International Business Machines Cor-

poration (IBM), I:288 International Civil Aviation Organiza-

tion (ICAO), I:289 Aviation (The future of the industry),

International Air Transport Association

(IATA), 1:288

United Nations table on, U:169

International code

See Morse code; Flag

International Cometary Explorer Space exploration (Probes to comets).

International Confederation of Free Trade Unions (ICFTU), 1:289

International conference

International relations (International conferences and organizations). 1:294

International Council for Bird Preservation (ICBP), I:289

International Council of Scientific Unions (ICSU), 1:289

International Court of Justice, 1:289

Hague, The, H:8 with picture International law (Courts and arbitration), 1:292

International relations (International law), 1:295

United Nations, U:160; (Other main organs) U:168; (The six major UN organs) U:162 with diagram

International Cricket Council (ICC) Cricket (The international administra-

tion of crickef). Cl-428 International Criminal Police Oresil zation

See Internal

International culture

Culture (The boundaries of culture) Ci:491

International Date Line, 1:289 with map

Time (Worldwide time zones), T:257 diagram on T:254 International Development Associa-

tion (IDA), I:290 United Nations table on, U:169

International Direct Dialling (IDD)

Telephone (Overseas calls), T:108, (Recent developments) T:110

International Energy Agency (IEA), International Federation of Library

Associations and Institutions

Library (International library programmes), L:228

International Fencing Federation (EIE)

Fencing, F:50

International Finance Corporation (IFC), I:290

United Nations table on, U:169

International Fund for Agricultural Development (IFAD), 1:290

United Nations table on, U:169 International Geophysical Year

Antarctica (International cooperation),

Space exploration (The first artificial satellite), So:141

international gold standard Exchange rate, E:413

International Ice Patrol lceberg (ice patrols), 1:18

International Labour Organization (ILO), 1:290

Nobel Prizes (Peace), N:234 United Nations table on, U:169

International language Esperanto, E:329

Language (Universal languages), LES Universal language, U:265

International law, 1:291 See also list of Related Articles

Grotius, Hugo, G:384 International relations, 1:294 Law (Branches of law), L:111

Treaty port, T:370

International library programmes

International Longshoremen's Asso Library, L:228

ciation (ILA) Bridges, Harry, B:569

International Maritime Organization

(IMO), 1:293 United Nations table on, U:169 International Monetary Fund (IMF)

1:293

Balance of payments, B:36 Money (International reserves), Massi

379

United Nations table on, U:169 International money Gold (Uses of gold), G:233 Молеу, М:547 Pound. P:727 International Music Eisteddfod Eisteddfods, E:135 Wales (Way of life), W:11 International nautical mile Knot. K:306 Mile. M:464

International Olympic Committee

Olympic Games, 0:435 International Pharmacopoeta [book] Pharmacopoeia, P:358

international phonetic alphabet Phonetics, P:431

international Political Science Assoclation

Political science (Contemporary ideas), P-684

International Red Cross

International law (History), I:292 Nobel Prizes (Peace), N:233

Red Cross, R:171

International Refugee Organization (IRO)

Refugee, R:187 United Nations (Aid to refugees), U:171

international relations, 1:293 See also list of Related Articles

Political science, P:653 International reserves

Money, M:556

International Rugby League

Rugby football (Rugby League), R:445 International Skating Union (I.S.U.) Ice skating (History), 1:16

International Society for Krishna Consciousness, The

Cult (Modern cults), CI:489

International standard book number [ISBN], 1:296

International Style | Buddhist art Sculpture (China), S:200; (Korea) S:201 with picture

international Style(architecture) Architecture, A:537 with picture Johnson, Philip Cortelyou, J:133 with **Picture**

International Subscriber Dialling (ISD)

Telephone (Overseas calls), T:108 International Sun-Earth Explorer 3 Space exploration (Probes to comets),

Sp:145 international System of Units Metric system, M:385 International Telecommunication

Union (ITU), 1:297 United Nations table on, U:169

International Temperature Scale of 1990 (ITS-90)

Temperature, T:136 Thermometer (Electrical thermometers), T:215

international Tennis Federation (ITF) Tennis (Amateur tennis), T:146 International trade, I:297

Arabs (The Arabs today), A:494 Convertibility, Ci:318

Economics (World trade), E:64 Exchange rate, E:413

Exports and imports, E:430

Free trade, F:432

Great Depression, G:316

Money (International finance), M:554

Ship. S:360 Tariff. T:43 Trade, T:324

International Ultraviolet Explorer Astronomy (Space exploration), A:699

International Union for the Conservation of Nature and Natural Resources (IUCN)

Conservation (International problems),

Wildlife conservation (International cooperation), W:252

International Union of Pure and Applied Chemistry

Element, Chemical, E:195

International waters

High seas, H:199

International Whaling Commission (IWC)

Conservation (International problems),

Whale (The future of whales), W:213 International Workingmen's Associa-

tion International, The, 1:288

Marx, Karl (The life of Marx). M:234 International, The, I:286

internationale, The lanthem), I:296 **INTERNET** [computers]

Encyclopedia (New types of encyclopedia), E:237

Internment

Neutrality (Rights and duties), N:104

Grass (The grass plant), G:301

Stem, So:314 Sugar cane, So:393 with picture

Interphase [biology] Cell (Mitosis), C:296

Interplanetary dust

Solar system, So:26

interplanetary medium Solar system, So:26

Interplanetary probe

Rocket (Launching probes and satellites), R:318

Space exploration (Probes to comets), So:145 with picture

interplanetary space

Space exploration (Space between the planets), So:130

Interpol, I:298 Police, P:643

Interposition (chess)

Chess (How chess is played), C:383

Interregnum (European history) Holy Roman Empire (Problems of the empire), H:251

Interrogative (grammar)

Adverb, A:59 Pronoun, P:801 Sentence (Sentence classification),

Interrupted Melody book by Lawrencel

Lawrence, Mariorie, L:121

Intersection

Road, R:296

Intersection [mathematics]

Set theory, S:276 with diagram

Interstellar space

Cosmic rays (Galactic cosmic rays), CI-370

Space exploration (Space between the stars). So:130

interstitial fluid

Human body (The lymphatic system),

Lymphatic system, L:425; (Return of interstitial fluid) L:426

Intertropical convergence zone

Wind (General circulation), W:267 Intervention [international relations].

r-296 Monroe Doctrine, M:571

World War II (The war becomes a global conflict), W:387

Intervertebral disc (anatomy) Back, B:17

Sciatica, S:137 Interviewing

Geography (How geographers work), Cattl

Journalism (Television), J:150 Newspaper (Reporters), N:181 Public opinion poll (Interviewing the

sample), P:840 Intestate

Will. W:254

Intestinal autointoxication Intoxication, I:299

Intestine, I:298 with picture

See also list of Related Articles Human body, H:355

Inthanon Mountain

Thailand (The Northern Mountains), T:182 with picture

Intifada (Arab uprising) Gaza Strip, G:66

Intolerable Acts, I:299

Adams, Samuel (The patriot), A:32 American Revolution, A:324 United States, History of the, U:241

Intonaco

Painting (Fresco painting), P:40 Intoxication, 1:309

Alcoholism (Effects), A:299

Intracartilaginous bone formation Bone (Development of bones), B:446

Intradermal injection

Hypodermic injection, H:416

Intramembranous bone formation

Bone (Development of bones), B:446

Intramuscular injection Hypodermic injection, H:416

Intramuscular inoculation

Inoculation, I:238

Intraocular haemorrhage Blindness (Diabetic retinopathy), B:388

Intraocular lens

Cataract, C:257 Eye (Diseases of the eye), E:441 Intrauterine device (IUD) Birth control (Methods of birth control), B:368 Intravenous injection, I:299 Hypodermic injection, H:416 Intravenous inoculation Inoculation, 1:238 Intrepid (ship) Decatur, Stephen, D:65 Intrinsic criticism Criticism (Kinds of literary criticism), Cl:442

Intrinsic motivation

Learning (Motivation). L:138 Introduction and Allegro (music by Elgarl

Elgar, Sir Edward William, E:210 Introduction to Kinesics (book by Birdwhistelll

Kinesics, K:253

Introduction to Metaphysics book by Heideager) Heldegger, Martin, H:133

Introduction to the Categories |book by Porphyryl Porphyry, P:692

Introduction to the Literature of Europe ..., An [book by Hailam] Hallam, Henry, H:22

Introduction to the Science of Sociology [book by Park and Burgess] Collective behaviour, Ci:164

Introduction to the Study of Experimental Medicine book by Bernardi

Bernard, Claude, B:258 Introspection

Psychology (Structuralism), P:830 Wundt, Wilhelm, W:424 Introvert (psychology), 1:299

Jung, Carl Gustav (His theories), J:168 Intruder, The work by Maeterlinckl

Maeterlinck, Maurice, M:39

Intrusive rock Igneous rock, 1:28

Rock, R:307 Intuition, I:299

Intuitionism

Ethics (In the 1900's), E:337 Mathematics (Philosophies of mathematics in the 1900's), M:260

Intumescent coating Fireproofing, F:139

Inuit (people), 1:300

Arctic, A:543 with picture Canada (American Indians and the Inuit), C:77

Canada (Ancestry), C:76 Clothing picture on, Ci:88 Deer (Caribou), D:81 Harpoon, H:65 with picture Igloo, 1:28

Indian, American (Peoples of the Arctic) picture on, I:151

Labrador, L:5 Mythology (Mythical places), M:752 North America (People), N:246

Races, Human (Climatic adaptations), 9:45

inuk

Indian, American (Peoples of the Arctic) picture on, 1:151

Invar Nickel (Industrial uses), N:200

Invar tape

Surveying (Modern tools), So:446

Invention, 1:310 with pictures

See also list of Related Articles Culture. CI:493

Inventive process

Invention (How people invent), I:311

Inventory

Space exploration (Controlling inventory and rubbish), So:137

Inventory map

Map (Types of maps), M:183 with pic-

Invercargill [New Zealand], £321 with picture

Inverciyde (Scotland), I:322 Inverness [Scotland], 1:322

Highland Region (Places to visit), H:199

Inverse square law

Light (Measuring light), L:263

Surgery (A typical operation), So:438 Invertebrate, I:322

See also list of Related Articles Animal (A table of animal intelligence). A:401

Animal (How animals raise their young), A:406

Animal (Kinds of animals), A:380; (The bodies of animals) A:396

Animal (When animals appeared on the earth), A:411

Brain, **B:518**

Earth (The earth's earliest history), E:26 Fossil, F:368

Hormone (Hormones of other animais). H:279

Nervous system (The nervous system in other animals), N:85

Prehistoric animal (Early forms of animal life). P:744

invertebrate palaeontology Lamarck, Chevalier de. L:33 Palaeontology, P:101

Inverted converter

Converter, Ci:318

Inverter [computer]

Computer (The digital logic unit),

Electronics (How electronic circuits process information), E:191

Investigator [ship], 1:322

Australia, History of (Maritime exploration), A:802

Flinders, Matthew (Voyage around Australia), F:227 with picture Northwest Passage picture on, N:290

Investiture

Feudalism (The principles of feudalism), F:63

Royal Family of the United Kingdom (The honours system), R:424

See also Decorations, medals, and on dore

Investment, 1:323

Bears and bulls, B:173

Economics (Important terms in economics). E:65

Gross domestic product (Measuring the GDP), G:382

Industry (Capital), 1:221 Margin, M:204

United States, History of the (Investments, speculation, and the crash), U:257

Investment banking, 1:324 Bank. B:93

Investment credit Credit, Cl:420

Investment goods

Industry (Other systems of classification). **1:224**

investment trust [finance] Unit trust. U:38

Invincible Armada [Spanish fleet]

Drake, Sir Francis (Expeditions against Spain), D:283 Spanish Armada, So:190 with picture

Invisible export [economics]

United Kingdom (Foreign trade), US Invisible glass

Glass (Kinds of glass), G:190

Invisible ink, I:324

Invisible load

River (The mouth of a river), R:290 Invisible Man (work by Ellison) American literature (Fiction and other

prose), A:320 Ellison, Ralph, E:218

Novel (After World War II), N:314

Invitation

Letter writing (Personal letters), L192 invitation to a Beheading ibook by Nabokovi

Nabokov, Vladimir, **N:2** invitation to Live inovel by Dougles

Douglas, Lloyd Cassel, D:272 invitation to the Dance music by

Weberl Weber, Carl Maria von, W:127

Invoice

Bill (In commerce), B:292

Involuntary muscle

Human body (Smooth muscles), H359 Muscle (Smooth muscles), M:715

lo [astronomy] Jupiter (Radio radiation), J:171; (Sate)

lites and ring) J:172 with diagram Space exploration picture on, Soil

lo [Greek mythology], 1:324 with plotter

Bosporus, B:474 Hera, H:158

lo moth

Moth picture on, M:642

lodine (element), 1:324 with picture Disinfectant (Iodophors), D:199

Goitre, G:229 Haiogen, H:25

lodophor

Disinfectant, D:199 lodine (Uses of iodine), 1:324

United Nations (The Iran-Iraq War),

United States, History of the (Foreign

World War II (table: the Allies), W:381

11:178

Iran-contra affair

affairs), U:263

iolanthe lopera by Gilbert and Sullivan Gilbert and Sullivan, G:158 lon, 1:325 Atom (Electric charge), A:726 Battery (Carbon-zinc cells), B:154 Brain (The chemistry of the brain), Electricity (Kinds of electricity), E:166; (table) E:168 Electrolysis (How electrolysis works), E:175 Electrolyte, E:176 Electron, E:178 Element, Chemical (How to use the perindic table), E:200 Fuel cell, F:479 Halogen, H:25 Hydroxide, H:409 lonosphere, I:328 Irradiation, I:405 Molecule, M:532 Nervous system (The beginning of an impulse), N:84 Plasma (physics), P:574 Reduction, R:176 lon exchange Rare earth, R:139 Ion exchange process Rare earth, R:139 Water softening, W:92 lon microscope, I:326 with picture Microscope (Other kinds of microscopes), M:443 lon pair Gamma ray, G:26 lon rocket Rocket, R:321 with picture lona linner Hebridesi, 1:327 ion [play by Euripides] Euripides, E:355 lonesco, Eugène [French playwright], Drama (Theatre of the absurd), D:300 French literature (French drama of the mid-1900's), F:450 Romania (Arts), R:352 ionian Islands (Greece), 1:327 Greece, G:338 Ionian Sea [Mediterranean], 1:328 Ionian War [413-404 B.C.] Peloponnesian War, P:249 Sparta (History), So:202 lonlans lancient peoplel, 1:328 lonic bond Bond (chemistry), B:444 Mineral (Chemical bonds), M:487 lonic column Architecture (table), A:515 with picture; (Classical Greek architecture) Column, Cl;213 with picture lonic solution Hydroxide, H:409 lonization Atom (Electric charge), A:726 Fluorescent lamp, F:274

Gamma ray, G:26

lon, 1:325 with picture

lon microscope, 1:326

Irradiation, 1:405 Isotope (Separating isotopes), E427 Kirlian photography, K:289 Physics (Fluid and plasma physics). P-474 Ionization detector Smoke detector, S:501 lonizer Air cleaner (Electrostatic precipitators), A-TRO Ionizing radiation Food preservation (Irradiation), F:306 Jonosphere, I:328 Air (Structure of the atmosphere), A:106 lon, 1:325 Magnetic storm, M:53 Radar (How radar works), R:58; (The first uses of radar) R:61 Radio (Kinds of broadcast waves), R:78 Thermosphere, T:217 LO.U. (debtl. 1:328 lowa [U.S.A.], 1:328 with picture and map Battleship (The rebirth of the battleship), B:158 Inecac (drue), 1:329 Iphigenia [Greek mythology], 1:329 Iphigenia in Aulis lopera by Gluck Gluck, Christoph Willibald, G:214 Iphigenia in Tauris opera by Gluck Gluck, Christoph Willibald, G:214 Iphigenia in Tauris [play by Euripides] Euripides, E:354 iphigenia in Tauris [work by Goethe] Goethe, Johann Wolfgang von (Middle years), G:228 Ipoh (Malaysia), I:329 Ipswich [Australia], I:330 Ipswich [England], 1:330 Suffolk (Places to visit), So:389 See Intelligence quotient Igal [clothing] See Agal Iqbal, Sir Muhammad [Indian scholar], 1:330 India, Literature of (Indian romanticism), I:128 Ir (symbol) Iridium, 1:379 See Irish Republican Army Irala, Domingo Martínez de Paraquay (Early days), P:166 Iran, I:331 with pictures and maps See also list of Related Articles Aviation (Aircraft nationality marks), A:881 Carter, Jimmy, C:213

P:296

Shiites, S:359

Teheran, T:98 with picture

Reagan, Ronald Wilson (Political career), R:159 Iran-Iraq War [1980-1988] Egypt (Egypt today), E:119 Iran (Iran today), I:340 Irag (War with Iran), I:347 Persian Gulf War (Causes of the war), P-296 United Nations, U:178 Irag, 1:341 with pictures and maps See also list of Related Articles Aviation (Aircraft nationality marks). AJUN Egypt (Egypt today), E:119 Flag picture on, F:205 Jordan (Recent developments), J:145 Kurds, K:341 Kuwait (History), K:345 Persian Gulf War, P:296 Slavery (Ancient times), 5:480 United Nations (The Persian Gulf War), 11:179 United States, History of the (Recent developments), U:264 World War II (table: The Allies), W:381 IRAS (satellite) Satellite, Artificial (Important satellites), 5:96 ireland, 1:349 with pictures and maps See also list of Related Articles Agriculture, A:169 Arms (Arms of Ireland) pictures on, A:587 Aviation (Aircraft nationality marks), A:881 Bord Fáilte Éireann, B:465 Canal, C:110 Car. C:163 Country crafts (Historical developmenti, Cl:394 County (The United Kingdom and the Republic of Ireland), Cl:396 Dublin, D:329 with pictures and map Education, E:86 Europe (table), E:359 Fenian movement, F:51 Fianna Fáil, F:66 Fine Gael, F:110 Flag picture on, F:208 Free port, F:430 Freedom of speech (Limitations), F:437 Girl Guides and Girl Scouts, G:170 Government, G:274 High kings, H:198 Home rule, H:253 Flag picture on, F:205 Intermediate Certificate Examination, Kuwait (History), K:345 Middle East (Recent developments), Kings and queens of Britain and Ireland (Rulers of Ireland), K:268 Mohammad Reza Pahlavi, M:527 Labour Party, L:4 Persian Gulf War (Causes of the war), Laois, L:57 with picture and map Leaving Certificate examination, L:144

New York City (Ethnic groups), N:147

picture Ireland, David (Australian novelist),

Australia, Literature of (Modern novels). A:832

Ireland, Government of, I:362 Ireland, History of, I:366

1.362

See also list of Related Articles Ireland, John [English composer], 1:378

Ireland, Ward Stone Shorthand machine, S:396 Irenaeus, Saint, 1:378

Irian Java [New Guinea] Indonesia (New Guinea), 1:190

New Guinea, N:114

Iridium [chemical element], 1:379 Iris [anatomy]

Eye (Parts of the eye), E:435 Iris iplanti, 1:379

Fleur-de-lis, F:226 with picture

Flower (Garden perennials), F:246 with picture Orrisroot, 0:506

Irish Brigade, I:379 Irish coffee

Ireland (Food and drink), 1:355 Irlsh Congress of Trade Unions

(ICTU) Trade unions, T:330

Irish cycles Mythology (Celtic mythology), M:760

Irish Fantasy [ballet] D'Amboise, Jacques, D:17

Irish Free State

Ireland, History of, 1:377

Irish literature (The Irish literary revival). I:383

Northern Ireland (The division of Ireland), N:275

Irish language, 1:379 Gaelic language, G:7

Irish Literary Revival

Drama (Irish drama), D:299

Ireland (Arts), I:356 Yeats, William Butler, Y:444

Irish literature, 1:381

See also list of Related Articles

Irish moss, I:384

Seaweed picture on, S:231 Irish National Theatre

See Abbey Theatre Irish Parliamentary Party ireland, History of, 1:376

Irish Republican Army (IRA), I:384 Ireland, History of (The War of Inde-

nendence). I:376 Irish literature (Drama), 1:383

Mountbatten, Louis, M:673 Northern Ireland (Central government). N:270: (The civil rights movement) N:275; (The contin-

uing conflict) N:275 Sinn Féin, S:454

Irlsh Republican Brotherhood

Ireland, History of (The Fenians), 1:375 Irish literature (The Irish literary revi-

val), 1:383 Irish Sea, I:384

Irish setter, I:385 with picture Dog picture on, D:227 Setter. S:278

Irish stew

Ireland (Food and drink), 1:355

Irish Sugar p.l.c., I:385 Irish terrier, I:385 Dog picture on, D:232

Irish Tourist Board

Bord Fáilte Éireann, B:465 Irish Transport and General Work-

ers Union (ITGWU) Larkin, lames, L:66

Irish Volunteers

Ireland, History of (The Volunteer movements), 1:376

Irish water spaniel, I:385 Dog picture on, D:226

Irish whiskey Ireland (Food and drink), 1:355

Whisky, W:229 Irish wolfhound (dog), I:385

Dog picture on, D:223, D:228 Wolfhound, W:288 with picture

Iritie

Eye (Diseases of the uveal tract), E:441 Irkutsk (Russia), #385

Iron Age, I:385

Iron and steel (History), 1:400

Iron and steel, 1:386 with pictures and

See also list of Related Articles with the Iron and steel article

Alloy (Alloys of iron), A:278

Cast iron, C:233

Electromagnet, E:176 Fireproofing, F:139

India (Manufacturing), E74 with pic-

Nickel (Nickel-iron alloys), N:200

Recycling, R:170 Sound (table), So:49

Vanadium, V:305

Iron, 1:385

Alloy (Alloys of iron), A:278 Anaemia (Deficiency anaemias), A:347 Baby (Vitamins and iron), B:9

Industrial Revolution (Coal and Iron), I:213

Nutrition (Minerals), N:364; (Mineral deficiencies) N:368 Oxidation, 0:535

Plant (Nutrient deficiencies), P:567 See also Iron and steel

Iron Crown of Lombardy Crown [symbol], Ci:458

Iron Curtain, 1:403

Churchill, Sir Winston Leonard Spencer (Leader of the opposition).

Cold War (Beginnings of the Cold Warl, Ci:160 Communism (World War II), Cl241

World War II (New power struggles), W:406 Iron-deficiency anaemia (disease)

Nutrition (Mineral deficiencles), National Market (Mineral deficiencles), National Market (Mineral deficiencles), National Market (Mineral deficiencles), National Market (Mineral deficiencles), National deficiencles, National deficiencle Iron Duke

Wellington, Duke of, W:147 Iron gangs [Australia]

Convicts in Australia (Punishment). Cl:322, with picture

Iron Gate

Danube River. D:32 Yugoslavia (Rivers and lakes), Y:476

Iron Guard (political party) Carol II. C:206

Romania (Depression and fascism),

Iron Knob [Australia], 1:403

Iron lung, I:403 with picture Iron ore Brazil (Mining), B:541

Haematite, H:5 Iron and steel (Sources of iron ore), 1:387; (Mining and processing

iron ore) 1:388 Iron ore deposits

Iron and steel, I:388 South America picture on, So:102

tron oxide

Galvanizing, G:18 Iron and steel (Kinds of Iron ore), 134 Iron (Properties), 1:385

Rust, R:504 Taconite, T:5

Iron pyrite Ferrous sulphate, F:58

Mineral picture on, M:484 Pyrite, P:876

Iron rust Rust, R:504

iron ship

Warship picture on, W:44 Ironbark (tree)

Eucalypt, E:351

Ironbridge Gorge Museum [England Shropshire (Places to visit), \$:403

Ironclad (ship) American Civil War (First battle be tween ironclads), A:306

Battleship (Development of the battle ship), **B:157** Monitor and Merrimack, M:562

Warship (Warships of the 1800's), W:46; picture on W:44

Ironmaking

Colonial life in America, Cl:187 Industrial Revolution (Coal and iros)

1:213 Ironsides, Old

See Constitution [ship] Ironsides

Cromwell, Oliver, Cl:451 United Kingdom, Armed services of

(History), U:79 framwood (tree), 1:403 with picture fromwork, Decorative, I:404 with pic-Irony, 1:404 Humour, H:371 Satire, S:99 bradiation, 1:405 Food preservation, F:308 See also Radiation trational number Decimal system (Decimals and fractions), D:70 Mathematics (The Greeks and Romans), M:257 Pi. P:48% Rational number, R:143 Imawaddy River, 1:405 Burma (The Central Belt), B:659 irregular galaxy Magellanic Clouds, M:44 irresistible impulse test Insanity, 1:239 Irrigation, 1:405 with picture See also list of Related Articles with the Irrigation article Arabs (Agriculture), A:492 Ashgabat, A:621 Australia picture on, A:763 Desert picture on, D:132 Food supply (Making farmland more productive), F:313 Georgia (Land and climate), G;102 Goulburn (rivers), G:265 Indian, American (Farming), 1:140 Jammu and Kashmir (Agriculture), 5:25 Kyrgyzstan (Economy), K:349 Lake, L:19 Murray River, M:709 Murrumbidgee, M:711 New South Wales (Climate), N:130 Oasis, 0:375 with pictures Queensland, Q:24 Rice (Planting), R:264 with pictures South Australia (Irrigation, reservoirs, and pipelines), So:111 Turkmenistan (Economy), T:467 Water (Water for irrigation), W:70 Western Australia, W:180 Initable colon Colitis, Cl:163 irtysh River [Russla/China], 1:408 Irvine New town (table), N:138 living, Clifford (American writer)

Hughes, Howard Robard, H:342

S:326 with picture

young nation), A:311

tional culture), U:245

Terry, Dame Ellen, T:160

1:409 with portrait

Rip Van Winkle, R:287

with portrait

Abraham, A:15 Ishmael, I:412 Jacob, J:8 Isaacs, Alick (Scottish virologist) Interferon, 1:281 Isaacs, Jorge [Colombian author] Colombia (The arts), Ci:171 Latin-American literature (The 1800's), 1.:95 Isaacs, Rufus Daniel Reading, Marguess of, R:159 Isaacs, Sir Isaac [Australian statesman], 1:410 with picture Isabella (wife of Edward II, E:93 Isabella I (queen of Castile and Aragon), 1:411 with picture Columbus, Christopher (Columbus in disgrace), Ci:211 Columbus, Christopher (Fourth voyage westward), Ci:211 Columbus, Christopher picture on, Ci:210 Columbus, Christopher (Return to Spain), Ci:209 Columbus, Christopher (Success in Spain), Ci:207 Columbus, Christopher (Years of waiting), Ci:207 Exploration (Columbus reaches America), E:420 Ferdinand V, F:53 Granada icity), G:291 Spain (Union of the Spanish Kingdoms). So:183 Torquemada, Tomás de, T:304 Isabella II Iqueen of Spain Spain, So:185 Isacks, Bryan L (American earth scientistl Continental drift, Ci:316 Isaiah (Biblical figure) Hezekiah, H:189 Isaiah, Book of, I:411 with picture Lucifer, L:411 Isaiah, Book of Old Testamenti, £411 with picture **Isandhiwana** Anglo-Zulu War, A:372 living, Sir Henry [British actor], 1:408 Isca Caerleon, C:12 Shakespeare, William (The 1800's), Iscariot, Judas Judas Iscariot, J:157 Potter's field, P:722 lwing, Washington [American author], Ischaemic heart disease Heart (Coronary artery disease), H:104 American literature (Literature of a Ischium [anatomy] Hip, H:217 Pelvis, P:250 United States, History of the (A na-Isfahan [iran], 1:412 Architecture diagram on, A:520 hwin, James B. [American astronaut] Iran (The Safavid dynasty), 1:338; pic-

elist). 1:410

Thurber, James, T:233

ture on 1:331 Space exploration (Other moon land-Ishak Haji Muhammad, I:412 ings). So:153: picture on So:155 Isherwood, Christopher [writer], I:412 Irwin, Margaret British historical nov-Auden, W. H., A:738 Is Sex Necessary? [work by Thurber] Ishikari Plain Japan picture on, J:47 Isaac [Biblical figure], 1:410 with picture Ishmael (Biblical figure), 1:412 Abraham, A:15 Kaaba, K:178 Ishmaelites (ancient people) Joseph, J:147 Ishmaili Khoja Muslims Tajikistan (People), T:13 Ishtar [Assyrian goddess] Assyria (Religion), A:675 Astarte, A:677 Ishtar Gate [Babylon] Babylon (The New Babylonian Empire), B:12 with picture Isidia (biology) Lichen (How lichens grow), L:240 isidore (Bishop of Seville) Encyclopedia (History), E:239 Isinglass, I:412 Isis [Egyptian mythology], I:412 with picture Egypt, Ancient (Gods and goddesses), Hieroglyphics picture on, H:194 Mythology (The Great Ennead), M:754 with picture; (The Osiris myth) M:754 Iskandar Muda (ruler of Aceh), I:413 Isla del Sol [Lake Titicaca] Lake picture on, L:17 Islam [religion], I:413 See also list of Related Articles Afghanistan (Religion), A:113 with picture; (The coming of Islam) A:114 Africa (Religion), A:124 with picture; (The rise of Islam) A:149 Algeria (Religion), A:263 Allah. A:270 Arabs (Religion), A:490; (The rise and spread of Islam) A:492; picture on A:489 Asia (Religions), A:625 Dervish, D:129 Education (Religion and the spread of education), E:92 Egypt (Religion), E:111 Ethics (Other religions), E:336 Feasts and festivals, F:39 Harem, H:60 India, 1:65 with picture India, Art of (The Islamic period), 1:87 with picture Indonesia (Religion), 1:184; (The arrival of Islam) 1:195; (The spread of Islam) 1:196 with picture Iran (Religion), 1:335 with pictures; (The rise of Islam) 1:338; picture on I:331 Iraq (Religion), 1:344 Java (The spread of Islam), J:69 Jordan (Religion), J:143 Malays, M:81

Malaysia (Religion), M:87

Mecca,, M:302

Thanet, T:186

Isoprene Isle of Wight Middle East (The Middle East today), Rubber (The chemistry of rubben, M:457 See Wight, Isle of. R:438 with diagram isle of Youth (Caribbean), 6424 Missionary, M:509 Isoptera (insect), I:426 Muhammad, M:684 Cuba, Ci:472 Insect (table), I:262 picture on [243 Muslims, M:742 with picture Isle Royale Ecology (Changes in ecosystems), E:58 Isosceles triangle Ottoman Empire, 0:519 Triangle (Kinds of triangles), T:397 Islet Painting (Islamic painting), P:50 Island, E422 with diagram Persia, Ancient (The Sassanid dynasty), Islets of Langerhans Isotherm, I:426 with map Insulin, E271 Arctic (Arctic lands), A:541 Ouran, Q:32 with pictures Humboldt, Baron von, H:366 Pancreas, P:127 Religion, R:205 with picture Weather (Making a weather map), Islington (London borough), 1:424 Resurrection, R:243 Islwyn [Wales], E424 W:120 Saint (Non-Christian saints), S:27 Ismail [religious leader] Isotope, I:427 with diagrams Saudi Arabia (Religion), S:105; (The Ismaili Muslims, 1:425 Atom (The mass number), A:725; rise of Islam) \$:110; picture on Ismail (shah of Iran) (Atomic weight) A:726 with die-S:107 grams Iran (The Safavid dynasty), I:338 Sculpture (India), S:197 ismail bin Abdul Rahman, Tun Cobalt (Uses), Ci:135 Shiltes, S:359 Element, Chemical (The Periodic Malaysian political leaderl, 1:424 Sunnis, So:426 Table), E:196 ismail bin Mohammed All [Malaysian Turkey (Religion), T:458; (The Seljuk Fallout (The fallout hazard), F:18 businessmanl, 1:425 Turks) T:462 Hydrogen (Properties), H:404 World, History of the (The Islamic em-Ismail Pasha (Egyptian government offi-Nier, Alfred Otto Carl, N:202 pires), W:351 Nuclear energy (table), N:320 Egypt (Muhammad Ali and moderniza-Yemen (History), Y:450 Nuclear physics, N:332 tion), E:116 islamabad (Pakistan), 1:417 Rock, R:307 Suez Canal (History), So:386 Pakistan, P:91; (Local government) P:92 Soddy, Frederick, So:15 Ismaili Muslims (religious community), with picture Uranium (Uranium isotopes), U:273; Islamic architecture 0425 (Properties of uranium) U:273; Architecture, A:519 with picture Islam (Sects), I:416 (How uranium is mined and pro-Asia (The arts), A:632 Tajikistan (People), T:13 cessed) U:274 with diagrams Ismay, Lord (British soldier), 1:425 World, History of the picture on, Isotope geology Isobar, 1:425 with map W:345 Geochemistry, G:85 Islamic art, k418 with pictures Weather (Making a weather map), Israel, 1:429 with pictures and maps W:120 See also list of Related Articles See also list of Related Articles with Islamic calendar Inobutane the Israel article Calendar, C:35 Isomers, £426 Air force (The Israeli Air Force), A197 Isocrates [Greek orator], E425 Island arc Amnesty, A:337 Island (Voicanic Islands), I:423 Isolated soy protein Arab League, A:487 Soybean (Soy meal), So:125 Seismology, S:241 Arabs (The Arab-Israeli conflict), Auto **Island Bend Dam** isolationism [doctrine], I:425 Aviation (Aircraft nationality marks) Lake Eucumbene, L:23 Roosevelt, Franklin Delano (Neutrality Island, I:422 with diagrams acts), R:389 A:001 Cooperative (Marketing cooperative) See also list of Related Articles United States, History of the (Looking Cl:337 **Island** [road] backward), U:257 Egypt (Renewed warfare and peace). Road (Intersections), R:296 World War II (The war becomes a **Island** hopping global conflict), W:387 F:118 Flag picture on, F:205 Nimitz, Chester William, N:220 **Isomeric transition** Herzl, Theodor, H:186 World War II (Island hopping in the Gamma rays, G:26 Immigration (Immigration policies) Central Pacific), W:398 Isomers (chemical compound), I:426 Islands in the Stream [work by Hem-Chemistry (Development of organic Jerusalem, J:87 with pictures and may ingway] chemistry), C:371 Jews (The modern world), J:115 Hemingway, Ernest (Later years), H:148 Isometric crystal Jordan (The 1967 war), J:145 Islands of Four Mountains Crystal (Classifying crystals), Ch:469 Lebanon (War and terrorism), Lita Middle East (Attempt at peace), MAST Aleutian Islands, A:242 with map with picture Islands of the Blessed [Greek mythol-Gem (Crystal shape), G:70 (Continuing conflict) M:456: (Palestine) M:456; (Recent develogy] Isometric projection Elysium, E:225 Technical drawing, T:81 with picture opments) M:457 Islas Malvinas Isometrics [exercise], I:426 Palestine Liberation Organization, See Falkland Islands Isomorphism [chemistry], E426 P:104 isle of Ely [England] Mineral (Mineral composition and Peres, Shimon, P:279 Cambridgeshire, C:49 structure), M:487 Persian Gulf War (The war), P.298 isoniazid [drug], I:426 Isle of Grain [England] Standard of living (table), So:275 United Nations (UN) (The Arab-Israel Tuberculosis (Treatment of tuberculo-Kent (Land regions), K:221 sis). T:434 Isle of Man conflicts), U:175 Isonicotinic acid hydrazide [drug] See Man, Isle of Israel, Ancient Isle of Pines Isoniazid, £426 Education (Other Middle Eastern edit sooctane See Isle of Youth Octane, 0:406 isle of Thanet (England)

Petrol (Petrol octane ratings), P:329

cation), E:89

Ivan IV, the Terrible [czar of Russia],

Tokyo (Outlying areas), T:280

1:473 lerusalem, 1:87 with picture and map opera) 0:463 Czar, Cî:515 lews (The kingdom of Israel), J:113 **Italian Somaliland** Romanov, R:359 Somalia (History), So:36 with maps Russia (Ivan the Terrible), R:485 with Italics (printing), I:446 Joshua, J:148 picture Handwriting picture on, H:51 Moses, M:631 Ivan the Terrible [film by Eisenstein] Palestine (Early history and Hebrew Type (Classes of type), T:484 Eisenstein, Sergei Mikhailovich, E:135 settlement), P:102 with map Italo-Ethiopian War, I:446 Italy, 1:447 with pictures and maps Ivan V Solomon, So:31 See Peter I, the Great See also list of Related Articles with kraell Air Force Ivanhoe (book by Scott) the Italy article Air force, A:197 Novel (Great Britain), N:312 Aviation (Aircraft nationality marks), braelites (people) Robin Hood, R:303 ALKEY. lews (History), J:112 Scott, Sir Walter, S:174, S:175 ludaism (The covenant with God), J:154 Berlusconi, Silvio, B:256 Ives, Burl [American actor] Car. C:163 Medicine (Origins in the Middle East), Film Industry (Best performance by an Christmas, C:490 actor in a supporting role), F:97 Communism (In non-Communist coun-Religion (Judaism), R:201 ives, Charles Edward [American comtries), Ci:244 Tabernacle, T:2 poserl, I:473 Depression (Effects on society), D:124 West Bank (History and government), Ives, H. E. (American physicist) Electric power (table), E:161 Relativity (Special theory of relativity), Eritrea (History), E:320 israelites in the Wilderness, The R:191 Europe (table), E:359 [music by C. P. E. Bach] Ives, James Merritt [American artist] Fascism (Fascism in Italy), F:30 Bach, Carl Philippe Emanuel, B:15 Currier and Ives, Ci:503 Flag picture on, F:208 Israfel (book by Allen) United States, History of the (Cultural Furniture, F:496 with picture Allen, Hervey, A:272 change), U:248 League of Nations (Why the League Issa lethnic group! IVORY, 1:473 with picture Dilboutl. 10:216 failed), L:135 Byzantine art (Other art forms), B:699 Istana Merdeka Library, L:233 with picture Libya (Italian control), L:239 Jakarta (Places of Interest), J:13 Elephant, E:202; (Tusks and teeth) Napoleon I (Victories In Italy), N:20 biana Negara ipalace, Malaysial E:204 Napoleon III (Foreign affairs), N:24 Kuala Lumpur picture on, K:338 Sculpture (Early medieval sculpture), Renaissance (The Italian Renaissance), Istanbul (Turkey), 1:441 with picture S:208 with picture See also list of Related Articles R:215 with map lvory-billed woodpecker Sculpture (Italian Renaissance sculp-Asia (City life), A:632 Woodpecker (Kinds), W:306 with picture), S:210 with pictures Middle East picture on, M:453 ture Turkey, T:454 with picture Theatre, T:204 Ivory black ipigment, I:474 ishmian games (Ancient Greece), 1:443 Wine (Wines from Italy), W:273 Carbon (Forms of carbon), C:188 itch (sensation), k473 Corinth, Ci:351 Ivory Coast, i:475 with picture and map Olympic Games (The ancient games), itch mite Flag picture on, F:201 Mite picture on, M:518 French West Africa, F:454 with picture lithmus (geography), 1:443 with map Scables, S:118 Houphouët-Boigny, Félix, H:321 Itching Parrot, The book by Fernandez Peninsula, P:260 Sculpture (African sculpture), S:202 LS,U. de Lizardi) with picture Latin-American literature (The 1800's). See International Skating Union Ivory-nut paim 1685 Ivory paim, I:476 See initial teaching alphabet Mexico (Literature), M:409 ivory palm [tree], 1:476 with pictures halpú Dam Ithaca [Island, Greece] Ivy [plant], I:477 with pictures Brazil picture on, B:543 tonian Islands, 1:327 with map See also Poison ivy Dam (Some important dams), D:14 Odyssey, 0:411 Paraguay (Energy sources), P:165 Ulysses, U:19 Italian Capriccio imusic by Tchai-Architecture (Islamic architecture), Ithan Ashari [religious community] A:519 with picture kovskyl Ismaili Muslims, 1:425 Islamic art (Madrasahs), 1:419 Tchaikovsky, Peter Ilich, T:76 Ito, Hirobumi [Japanese political leader] italian greyhound (dog), I:443 with pic-Mosque, M:633 Japan (Meiji period), J:57 iwo Jima (island), 1:478 It's Me, O Lord book by Kentl italian in Algiers, The lopera by Ros-Japan (World War II), J:59 Kent, Rockwell, K:222 World War II (Closing in on Japan), It's Never Too Late to Mend (book by Rossini, Gioacchino Antonio, R:404 W:400 with picture Readel Italian Journey (work by Goethe) Extacihuati [voicano], I:478 with picture Reade, Charles, R:149 Goethe, Johann Wolfgang von, G:228 Mexico (The Cordillera Neoiturbide, Agustín de lemperor of Mexhalian language, 1:443 Volcánica), M:410 ico], I:473 İtalian literature, 1:445 Mountain (table), M:668 with diagram Mexico City (History), M:430 Italy (Language), 1:454 Iyar (month) Mexico (Independence), M:420 Italian literature, 1:445 Calendar (The Hebrew Calendar), C:34 Santa Ana, Antonio López de (Young See also list of Related Articles Izetbegović, Alija, soldier), S:76 Drama (Italian Renalssance drama), Bosnia-Herzegovina (History), B:475 Ivan III, the Great Igrand duke of Mus-Izmir [Turkey], I:478 D:290; (Italy) D:295; (Italian drama) covy], I:473 izu islands D:299 Moscow (History), M:630 Italian opera

Russia (The rise of Moscow), R:485

Opera. 0:456: (The development of

386 Izvestia Izvestia [newspaper] Moscow (Communications), M:629 | [letter], J:1 with pictures | particle Meson, M:370 Physics (Advances in the mid-1900's), Pt478 Psi particle, P:824 laafar, Long, J:2 laafar, Tuanku (king of Malaysia), J:2 Royal families (Malaysia), R:421 labal Katrinah (mountain) Egypt (The Sinai Peninsula), E:112 Jabir ibn Hayyan See Geber labiru (bird), J:2 with picture Northern Territory (Government), N:279 Stork, So:337 Jaçana [bird], J:2 with picture Bird picture on, B:327 lacaranda [tree], J:2 with picture Jacaranda Festival [Australia] New South Wales (Visitor's guide), N:127 Jacaranda Tree, The (book by Bates) Bates, H. E., B:149 l'Accuse [letter] Dreyfus, Alfred, D:307 Zola, Emile, Z:500 lack (animal) Donkey, D:266 **jack** [flag] Flag (Navy flags), F:212; (table) F:213 lack (sports) Bowls, B:492 "lack and the Beanstalk" [story by lacobsl Jacobs, Joseph, J:8 lack Cade's rebellion [1450] Henry VI, H:152 Jack Frost (legendary figure), J:3 lack-in-the-pulpit |plant|, J:3 with pic-

Arum, A:616 lack Miner Migratory Bird Foundation Miner, Jack, M:482 Jack-o'-lantern, J:3 Halloween, H:24 with picture Pumpkin, P:855 Will-o'-the-wisp, W:254 Jack Pine, The [painting by Thomson] Thomson, Tom picture on, T:224 lack pine Pine (North American pines), P:503 Jack rabbit, J:3 with picture Hare, H:59 Jack Russell terrier, J:4 with picture Jack the Ripper [British criminal], J:4 lack-up rig Petroleum (Offshore drilling), P:344

with picture Jackal [animal], J.4 with picture lackass penguin Penguin, P:257 Jackdaw [bird], J:4 with picture lackeroo [Australian trainee farm managerl, J:5 lackfruit [tree], 1:5 with picture Jackknife derrick Petroleum (Rigging up), P:342 Jacklin, Tony [British golfer] Golf (table), G:248 jackling, Daniel C. [American mining engineer Copper (Industrial developments), CI:344 lacknife-fish (fish) Drum (fish), D:324 lacks (game), J:5 with picture lackscrew Machine (Screw), M:13 lackson Purchase Region American Civil War (The war in the East 1861-1863), A:306 Kentucky (Land), K:223 Jackson, Alexander Young (Canadian painterl, J:5 with picture Group of Seven, G:385 Jackson, Andrew [U.S. president], J:6 O'Neale, Peggy, 0:451 United States, History of the (Politics and the "common man"), U:248 lackson, Baroness See Ward, Barbara Jackson, Glenda (British actress), J:6 Jackson, Jesse Louis (American civil rights activist], J:6 with portrait Jackson, Mahalia (American gospel singer), J:7 with portrait Jackson, Marjorie (Australian athlete), Jackson, Michael (American singer), J:7 with portrait Rock music (Rock videos), R:314 Jackson, Peter [Australian boxer] Boxing (Boxing in Australia and New Zealand), B:498 Jackson, Stonewall [Confederate generall, 1:7 with portrait Jacksonian Democracy United States, History of the, U:248 Jacksonville (U.S.A.), J:8 [ackstones [game] lacks, 1:5 Jacky Jacky [Aborigine explorer], J:8 Kennedy, Edmund, K:216 lacob [Biblical figure], J:8 Abraham, A:15 Esau. E:323 Isaac, I:410 with picture Jews (Beginnings), J:112 Joseph (son of Jacob), J:146 Rachel, R:50 Jacob Blessing the Sons of Joseph **[painting by Rembrandt]**

picture

R:211

Drama, D:292 lacobean houses Stately homes of Britain and Ireland. So:298 with pictures lacobins [French history], 1:8 French Revolution (The National Convention), F:453; (Terror and equaity) F:453; (The revolution ends) F:454 Marat, Jean Paul, M:196 Mirabeau, Comte de, M:505 Robespierre, R:301 See also Girondists lacobite risings, 1:8 George I, G:100 Rob Roy, R:300 Scotland, History of (The Act of Union) Tartan, T:45 Jacob's Room [book by Woolf] Woolf, Virginia, W:313 Jacobs, Joseph (British scholar), J.8 Storytelling (The 1800's), So:340 lacobson's organ Amphibian (Sense organs), A:341 Reptile (Sense organs), R:232 Snake (Sense organs), S:508 with die lacquard, J:9 Jacquard mechanism Computer (Early punched-card computing devices), Ci:264 Jacquard, Joseph Marie, J:9 Rugs and carpets (Wilton rugs and car pets), R:450; (History) R:452 Textile picture on, T:173 Weaving (History), W:126 Jacquard, Joseph Marie (French weaver, J:9 Computer (Early punched-card computing devices), Cl:264 Rugs and carpets (History), R:452 Weaving (History), W:126 Jacques the Fatalist book by Diderol Diderot, Denis, D:167 Jade (gem), J:9 with picture China (Sculpture and pottery), C447 with picture Gem picture on, G:72 Jewellery (Oriental jewellery), [110] Sculpture (Pacific Islands sculpture) S:204 World, History of the picture on, W:341 Jadelte Jade, J:9 [aeger [seabird] Bird picture on, B:320 Skua, S:474 Jaffa [Israel], J:9 Tel Aviv, T:99 Jagannath [India], J.9 with picture Jagger, Mick Rolling Stones, R:334 Jagiełło, Władysław (Grand Duke of Painting (Dutch painting), P:66 with Lithuanial Lithuania (History), L:331 Poland (The Polish empire), P:631 Rembrandt (The last years: 1640-1669),

lacobean drama

387

with portrait

Americium, A:331

Curium, Cl:501

1:23

James, P. D. [British writer], J:23

James, Raiph A. [American scientist]

james, Saint [Biblical figure], J:23

D:345

lamaica pepper

Allspice, A:279

Jambu (tree), J:22

lamaican Rumba (music)

Benjamin, Arthur, B:239

lames I lking of Englandl, J:22

See also list of Related Articles

Roman Catholic Church, R:342 jansky, Karl Guthe [American engi-Astronomy picture on, A:698; (The development of radio astronomy) Radio telescope (History), R:89 Telescope (Radio telescopes), T:114 janssen, Pierre J. [French astronomer] Helium, H:143 Janssen, Zacharlas [Dutch optician] Invention (Social needs), 1:311 Microscope (History of the microscope), M:443 Jansz, Willem (Dutch navigator), J:29 James, William (American philosopher), with map

Jardine, John (Australian explored Japan) W:408 Australia, History of (First sightings), Jardine, J:66 Japan, Sea of, J:61 Korea (The land), K:325 with map largon Dutch explorers, D:359 Pacific Ocean (Coastline and islands), Language (table), L:51 Exploration (Exploring the Pacific), Slang, S:478 P:14 larrah. 1:66 Japan Air Lines Queensland (Early settlement), Q:25 Eucalypts picture on, E:350 Airline (table), A:208 Weipa, W:142 Jarrow [England], 1:66 Japan clover lanuary (month), 1:30 with pictures See also Bede See Lespedeza See also list of Related Articles South Tyneside, So:119 lapan Current, J:61 with map fanus [Roman god], J:31 larrow hunger march (British histori) lapan (Climate), J:50 New Year's Day (Early customs), N:139 Great Depression (Effects in Europe) Ocean (Currents), 0:394 Japan, J:32 with pictures and maps Pacific Ocean (Currents and tides), G:318 with picture See also list of Related Articles Jaruzelski, Wojciech (Polish general) Asia (Life in Japan), A:640 with picture; 1:66 with portrait lapan trench (oceanography) (The rise of the Japanese Empire) Poland (Recent developments), PSSS Pacific Ocean (The ocean floor), P:14 tarvik-7 artificiai heart Japan wax Australia, History of Japan enters the Artificial heart. A:611 Wax (Vegetable wax), W:106 war). A:821 larvik, Robert K. [American doctor] Japanese architecture Aviation (Aircraft nationality marks), Artificial heart, A:610 Architecture, A:519 with picture A:881 lasmine (shrub), J:66 with picture Japanese barberry Car. C:163 lason and Medea China (War with Japan), C:462 Barberry, B:106 Ballet picture on, B:55 Decorations, medals, and orders, D:75 Japanese beetle, J:62 with picture Jason (Greek mythology), J:67 Beetle (Scarabs), B:198 Doll (Traditional dolls), D:244; (Doll Argonauts, A:565 with map festivals and customs) D:244 with Insect picture on, 1:247 Golden Fleece, G:239 lapanese chin, 1:62 with picture picture Medea, M:304 Japanese cormorant Dolphin (Dolphins and people), D:253 Mythology (Greek heroes), M:757 Cormorant, Ci:356 Drama (Asian drama), D:296 lasper [mineral], J:67 Japanese language, j:62 Electric power (table), E:161 Gem picture on, G:72 Alphabet, A:284 Flag picture on, F:205 Quartz, Q:8 Furniture, F:496 with picture Japan (Language), J:40 Jaspers, Karl [German philosopher], Language (Language families), L:51 Hirohito, H:221 with portrait 1:67 Japanese literature, J:63 with picture Hiroshima, H:222 with picture Jassin, H. B. (Indonesian essay writer) Drama, D:296 with picture; picture on Indonesia (The Japanese occupation), 1:67 D:285 6201 JATO (jet-assisted take-off) unit lapanese maple Iron and steel (Chief producers), 1:399 Rocket (Other uses), R:319 Maple, M:192 with picture Japan, Sea of, J:61 jaundice, J:67 Japanese monarch birch Jewellery (Oriental jewellery), j:110 Gali bladder, G:15 Birch (Dwarf birch), B:314 Kamikaze, K:184 Hepatitis, H:157 Library (Australia and the Far East), lapanese music Liver (Diseases of the liver), L335 Music, M:735 1:226 Java, J:67 with pictures MacArthur, Douglas, M:3 Japanese pium Asia (The arts), A:637 Burbank, Luther, B:648 Martial arts, M:231 Borobudur, B:471 Nuclear energy, table on, N:328 Japanese print [art], J:64 with pictures Indonesia (Shelter), 1:185; (The Islands) Nuclear weapon, N:335; (World War See also list of Related Articles 1:187 II) N:340 Japanese sculpture Quinine, Q:30 Osaka, O:508 with picture Sculpture, S:201 with picture Semarang, S:246 Japanese spaniel Painting (Japanese painting), P:50 with Wayang, W:107 See Japanese chin Java man lanthropologyl, J:71 Japanese spider crab Pearl Harbor Naval Base [Hawaii], Dubois, Eugéne, **D:335** Crab (Edible crabs), CE412 P:235 with picture Java Sea Pacific Ocean (Coastline and islands) Japanese spitz, J:65 Perry, Matthew Calbraith, P:292 Railway, R:107 picture on R:108 Japanese whisky P:14 Royal families, R:420; picture on R:418 Whisky, W:229 Java sparrow lapanese writing Russo-Japanese War, R:502 Bird picture on, B:324 Singapore (World War II), S:451 with Alphabet, A:284 lava [ship] picture Japanese yew Perry, Oliver Hazard, P:289 Yew, Y:452 Space exploration, So:161 Javan gibbon Japheth [Biblical figure] Telephone, T:109 Gibbon, G:153 Theatre, T:204 Noah, N:225 Javan rhinoceros Rhinoceros (Kinds of rhinoceroses) Tokyo, T:277 with pictures and maps laponica rice World, History of the (The rise of Japa-Rice (Kinds of rice), R:263 11:254 nese civilization), W:345; (Devellarabe tapatío Latin America (Dancing), L:86 Javan tiger opments in China and Japan) Tiger (The rare tiger), T:245 Mexico (Music), M:409; picture on W:352 Javed Miandad, J:71 Javelin [weapon], J:71 with pictures M:410 World War II (The liberation of the Athletics (Throwing events), A:712 Jardine, Alexander | Australian ex-Philippines), W:399 with picture;

plorer

Jardine, 1:66

Javelina

(Closing in on Japan) W:400 with

pictures and maps; (Peace with

Jerusalem, J:87 with pictures and map

Aqueduct (Ancient aqueducts), A:485

See also list of Related Articles

Hezekiah, H:189

United States, History of the (Jefferlennings bit Peccary, P:240 Drill (Wood drills), D:308 sonian democracy), U:244 Jennings, Sir Ivor (British academic), faW leffersonian democracy Face, F:3 United States, History of the, U:244 1:84 with portrait Insect (Mouthparts), 1:248 lowara, Sir Dawda [Gambian political Jeffreys, George (English judge), J:81 lenny [animal] Donkey, D:266 Monmouth, Duke of, M:567 leader] lenny wren leffreys, Sir Harold (British geophysi-Gambia (History), G:22 Wren, W:414 cistl. I:81 lay, 1:72 with pictures Jenolan Caves [Australia], J:84 leffries, James Jackson (American Blue lay, B:405 New South Wales (visitor's guide), boxerl. 1:81 Jayakarta N:127 jeffries, John (American balloonist) See lakarta Jensen, Adolf E. [German anthropolo-Balloon (The growth of ballooning), Jayamohan [Indian writer] gist India, Literature of (Contemporary B:64 Mythology (Jensen's theory), M:764 Blanchard, Jean-Pierre, B:384 trends), 1:129 Jensen, J. Hans [German physicist], J:84 Jeholakim (king of Judah), J:81 levapura [Indonesia] Jenson, Nicolas [French printer], J:84 Jehoshaphat [king of Judah], J:81 Indonesia (New Guinea), 1:190 Book (The spread of printed books), lehovah (Hebrew god), J:81 New Guinea, N:114 with map R-456 Jehovah's Witnesses (religious group), Jayewardene, J. R. (Sri Lankan political lephtha [music by Handel] leaderl Handel, George Frideric, H:41 lehu [king of Israel], [:81 Sri Lanka (History), So:258 **jeppe of the Hill** [play by Holberg] Flisha, E:211 lavuva Indian Festival Holberg, Ludvig, H:244 lekvil and Hyde Puerto Rico (Arts), P:847 lerboa [rodent], J:84 with picture Stevenson, Robert Louis (Novels), lazz, 1:73 with pictures Desert picture on, D:131 So:322 See also list of Related Articles Russia (Land regions), R:475 Jekyll, Gertrude (English landscape ar-Music (Popular music), M:734 leremiah, Book of Old Testament), chitectl New Orleans (The people), N:120 1:85 with picture Lutyens, Sir Edwin Landseer, L:420 Opera (The search for new forms), Jeremiah, Letter of [Bible] lellaba (clothing) 0:466 Bible (The Apocrypha), B:275 Morocco (Way of life), M:612 lazz Age Jellicoe, Sir John (British admirai), J:81 Jericho, J:85 Roaring Twenties, R:299 Israel (Recent developments), 1:440 lutland, Battle of, J:175 fazz band loshua, J:148 World War I (The war at sea), W:370 Band. B:74 Middle East (Recent developments), jelly Jazz rock M:457 See lam and jelly Rock music (Rock goes pop), R:313 Palestine (The continuing conflict), Jellyfish (sea animal), J:82 with pictures jazz Singer, The [fi]m] P:104 Animal (Fins, tails, and flippers), A:398; Film industry (The movies talk), F:101 **Jerilderie Letter** picture on A:394 Joison, Al. I:138 Kelly, Ned (Raids of the Kelly gang), Jemison, Mae Carol |American astro-LE poetry by MacLeishi K:212 MacLeish, Archibald, M:21 nautl, 1:83 Space exploration (The shuttle era be-1erkin jealous God, The (book by Braine) Clothing (The Renaissance), Ci:102 gins), So:157 Braine, John, B:520 Jeroboam I (Biblical figure), J:85 Jean (grand duke of Luxembourg) lenghis Khan Solomon, So:31 Luxembourg (History), L:422 See Genghis Khan Jeroboam II (Biblical figure), J:85 Jenkins, Charles Francis (American injean Baptiste de la Saile, Saint Jerome, Jerome K. [British playwright], French priestl, J:79 ventorl, J:83 1:85 with picture Jenkins, Roy Harris (British politician), iean Barois book by Martin du Gard Jerome, Saint (Biblical scholar), J:86 Martin du Gard, Roger, M:232 1:83 with portrait Social Democratic Party (SDP) (History), jean-Christophe (book by Rolland) Bible (The first translations), B:275 Rolland, Romain, R:333 So:4 Vulgate, V:429 Jean II [prince of Monaco] jenkinson, Robert Banks Jersey [cattle] Monaco (History), M:540 Liverpool, Earl of, L:336 Cattle (Dairy cattle), C:273 with picture; jeanne d'Arc Jenne [Maji], J:83 (table) C:277 See Joan of Arc, Saint See also Sunni Ali Dairying (Dairy cattle), D:6 Jeanneret-Gris, Charles Édouard Songhai Empire, So:41 Jersey (Channel Islands), J:86 Jenner, Edward (British doctor), J:83 See Le Corbusier Channel Islands, C:343 with maps leans, Sir James Hopwood (British sciwith pictures Jersey (fabric), J:86 Drug (The drug revolution), D:318 entisti, 1:79 Jersey Lily Earth (The birth of the solar system), Inoculation, 1:238 Langtry, Lillie, L:49 Medicine (The development of immu-E:24 leddah lersey stitch nology), M:316; picture on M:315 Textile (Weft knitting), T:171 See Jidda Jenner, Sir William (British doctor). Jerusalem (book by Lagerlöf) leep [vehicle], 1:79 with picture]:84 Lagerlöf, Selma, L:15 with portrait lefferson Memorial Jennet [animal] Jerusalem [work by Blake] Washington, D.C. picture on, W:56 Donkey, D:266 lefferson, Arthur Stanley jenney, William Le Baron (American Blake, William, B:383

architectl, J:84 with portrait

ture in America), A:534

Skyscraper, S:477

Architecture (Early modern architec-

Laurel and Hardy, L:106

States), A:13

lefferson, Thomas [U.S. president], 3:79

Abolition movement (in the United

Resurrection, R:243 with picture

Shroud of Turin, S:403

Etruscans picture on, E:345 Israel (City life), I:432; picture on I:429 Transfiguration, T:339 Fabergé, Peter Carl, F:2 Wandering Jew, W:30 Jeremiah, Book of, J:85 Gem, G:70 Jesus Christ Superstar [musical] Western Wall, W:193 Lloyd Webber, Andrew, L:343 Gold, G:233 "lerusalem" [music by Parry] Goldsmithing, G:243 Musical comedy (Musical comedy Parry, Sir Hubert, P:202 Lapidary, L:61 today), M:740 Jerusalem artichoke, J:94 with picture Lapis lazuli, L:62 lesus in His Times book by Daniel-Artichoke, A:609 Jewett, Sarah Orne [American author) Rops lerusalem Bible, The American literature (Realists), A:315 Daniel-Rops, Henri, D:31 Bible (Modern English translations), Jewfish, J:111 with picture jesus Movement Religion (Religion today), R:205 Bass picture on, B:141 Jerusalem Conquered (poem by Tasso) Fish picture on, F:161 Jet icoal), J:101 Tasso, Torquato, T:65 Jewish Antiquities book by Josephus Jet aeroplane Jerusalem Delivered (poem by Tasso) Aeroplane, A:74 with pictures Josephus, Flavius, J:148 Tasso, Torquato, T:65 Air force (World War II), A:198; (Air lewish calendar Jerusalem Inn lbook by Grimes forces in the nuclear age! A:199 Calendar (The Hebrew calendar), C34 Grimes, Martha, G:376 Aviation (A new age of flight), A:885 lewish feasts lervis Bay [Australia], J:94 Judaism (Holy days and festivals), [156 let propulsion, J:102 with pictures and jessamine lewish literature diagram Gelsemium, G:70 Hebrew language and literature, Hill Korean War (The air war), K:331 Jasmine, J:66 Yiddish language and literature, YASS let-assisted takeoff Poisonous plant (table), P:621 lews, The [work by Lessing] Goddard, Robert Hutchings, G:225 Jester, J:95 Lessing, Gotthold Ephraim, L:187 jesuits ireligious groupl, j:95 Jet boat, J:101 Jews, J:112 with pictures and maps Christianity (The Counter Reformation), Jet engine Abraham, A:15 Aeroplane (During World War II) C:486 Anti-Semitism, A:464 Guided missile (The engine), G:407 Goa (History), G:220 Jet propulsion, J:102 with pictures and Circumcision, Ci:8 Loyola, Saint Ignatius, L:409 Czech Republic (People), Cl:517 diagram Paraguay (History), P:166 Germany (Religion), G:121; (Nazl Ger Kerosene, K:236 Pope (Renaissance and Reformation), many) G:136 Rocket (Rocket propellant), R:317 P:677 Hitler, Adolf, H:227 X rays picture on, X:430 Religious life (The Roman Catholic Holocaust, H:249 with picture Church), R:208; (table) R:208 Jet exhaust Israel, 1:429 Aeroplane (jet engines), A:95 Roman Catholic Church (Suppression Jerusalem, J:87 with pictures and may let exhaustion of the Jesuits), R:343 Judaism, J:154 Geological clock (The biological clock Xavier, Saint Francis, X:432 Kosher, K:331 Jesus Christ, J:96 with pictures in people), B:303 Marriage (Wedding ceremonles and See also list of Related Articles let injector gun customs), M:218 Apostles, A:473 Hypodermic injection picture on, New York City (Ethnic groups), N:147 Beatltudes, B:174 H:416 Old Testament (Contents), 0:427 Jet lag Bible, B:270 Palestine (Early history and Hebrew Biological clock (The biological clock Byzantine art picture on, B:697 settlement), P:102 in people), B:303 Christianity, C:483 Rosh Ha-Shanah, R:402 Cross, Cl:454 let propulsion, I:102 with pictures Segregation (Segregation in other See also list of Related Articles Easter, E:41 countries), S:239 God (Personal Gods), G:225 Jet Propulsion Laboratory [Pasadenal, Spain (Union of the Spanish king J:107 Herod (Herod the Great), H:180 doms), So:183 Jerusalem, J:90 with picture; (Roman Jet pump rule) J:93 Talmud, T:18 Pump, P:854 Wandering Jew, W:30 Jews (Roman rule), J:114 Jet stream (atmosphere), J:107 with World Jewish Congress, W:361 Jews-harp [musical instrument, kill John the Baptist, Saint, J:131 with picmap Air (Air movement), A:185 ture with pictures Jews of Silence, The [book by Wlesel Weather (General circulation of the at-Joseph, J:146 Lord's Prayer, L:385 mosphere), W:113 Wiesel, Elie, W:245 Madonna and Child, M:33 with picture **Jetsam** [wreckage] Jhansi, Rani of, J:117 Mary [mother of Jesus], M:236 Flotsam, jetsam, and lagan, F:236 Jhelum River Jammu and Kashmir picture on, \$26 Mass, M:244 jetty, J:108 New Testament (Dating the New Testa-Jevons, William Stanley (British econo-Jiang Bingzhi [Chinese writer] ment). N:136 mistl, J:108 Ding Ling, **D:173** Jiang Qing [Chinese political leader] Painting (Religious subjects), P:32 with picture See Jews Palm Sunday, P:108 jew of Malta, The [play by Marlowe] China (China after Mao), C:464 Jlang Zemin (Chinese political leader) Pentecost, P:267 Marlowe, Christopher, M:215 Pentecostal churches, P:267 Jewel (ornament), J:108 China (Recent developments), Cife Religion (Christianity), R:205 with pic-Crown, Cl:458 Gem, G:70 lib crane Religious life (Christian communities), Jewellery, j:108 Crane, Ci:416 Watch (Mechanical watches), W:66 R:207

jewellery, j:108 with pictures

See also list of Related Articles

Jicama, J:118

Jidda [Saudi Arabia], J:118

lic Church), G:13

P:679

Poland (Recent developments), P:633

Pope, P:673 with pictures; (table)

John XXII [pope], J:128

John XXIII [pope], J:128

Joseph, J:146

John XXIII (antipope), J:128

Sculpture (japan), S:201

(The start) H:308

Horse racing, H:307 with pictures;

Jockey

lolson, Al American entertained litte Boswell, James, B:477 Pone (The daily life of the pone). Communication (Famous first world) Dictionary (Early English dictionaries), P:674: (The nanacy today) P:680 Ci-234 Roman Catholic Church (The church D:166 Film industry (The movies talk). From Idealism, 1:26 today), R:344 Inithead porgy John Paul Jones (book by Morison) Metaphysical poets, M:378 Porgy, P:691 with picture Morison, Samuel Eliot. M:607 Patriotism (Abuses of patriotism), "loltin' loe" John Silence (book by Blackwood) P5217 DiMaggio, loe, D:173 Shakespeare, William (Editions of the Blackwood, Algernon, B:382 Ionah (Biblical figure) John the Baptist, Saint, J:131 with pic-1700's and 1800's), S:324 Johnston, Edward (British artist), 1:135 Davy Iones, D:50 Johnston, Franz (Canadian painter) Ionah, Book of, 1:138 Baptism, B:99 Group of Seven. G:385 Ionah, Book of [Old Testament], http:// Elizabeth, Saint, E:215 tonah Inovel by Stonel Johnston, George [Australian military Herod Antipas, H:180 Australia, Literature of (Novelsi, Add) lesus Christ (Public life), J:98: picture leader Ionassaint, Emile Macarthur, John (Disrupting politics), on I:97 Haiti (History), H:18 John the Evangelist. Saint Ionathan, Leabua (Lesotho politica) Rum Rebellion, R:456 See John, Saint leaderl Johnston, George Henry (Australian John Wickittle [ship] Lesotho (History), L:186 authorl, J:135 Dunedin, D:349 lones, Bobby (American golfer), 1:138 Johnston, Sir Harry British explorerl, Johnny Appleseed Jones, Casey [American rallway eng-I:135 See Appleseed, Johnny neerl, 1:138 Johnny Biossom [work by D'Aulaires] **Johnstown Castle** iones, Christopher Wexford picture on, W:201 D'Aulaire, D:43 Mavflower, M:281 Johnny darter [fish] Johor, 1:135 Jones, Edith Newbold Malaysia, History of, M:103 Darter picture on. D:37 Wharton, Edith, W:214 Johor Bahru (Maiaysia), J:136 Johnny Johnson (musical by Weill) Jones, Ernest (British psychoanalyst). Johor (Places to visit), J:135 Weill, Kurt, W:141 loint [anatomy], 1:136 with pictures Johns, Jasper [American artist], [:131 Shakespeare, William (Modern criti-See also list of Related Articles Johns, W. E. (British writer), 1:132 cism), S:325 Johnson Space Center (U.S.A.), 1:134 Bone, B:445 Iones, Everett LeRoi Johnson, Amy (British airwoman), 1:132 Human body (The skeletal system), Baraka, Amiri, B:101 H:351 with picture Jones, Henry Arthur British dramatist Aeroplane (Fliers of the golden age), Orthopaedics, 0:507 Drama (English drama), D:298 Shoulder, \$:398 with diagram Ailli Jones, Inigo (English architect), Jrl39 Johnson, Andrew [U.S. president], J:132 Ioint (botany) Prickly pear, P:775 with picture Reconstruction (Johnson's plan), R:162 Architecture (Later Renaissance archi-United States, History of the (Recon-Joint-stock company (business organitecture), A:527 struction), U:251 zation), J:137 Covent Garden, Cl:403 lointer Johnson, Eyvind [Swedish writer] England (The arts), E:269 Nobel Prizes (Literature), N:233 Woodworking (Cutting), W:307 Masque, M:244 Sweden (Literature), So:467 Joist Jones, Jim (American religious leader Johnson, Jack [American boxer], J:132 Building construction (Beams, girders, Cult (Modern cults), Cl:489 and columns), B:627 with picture Guyana (History), G:435 ' [effries, James Jackson, J:81 loloba, 1:137 Jones, John Paul (American military Johnson, James P. American jazz musi-**Joke** leaderl, J:139 with portrait ciani Jones, Kenney British musician lazz (The 1920's), 1:75 ioliot-Curie, Frédéric (French physicist) Who, The, W:241 with picture Johnson, Lyndon Baines (U.S. presi-Ioliot-Curie, Irène, 1:137 dentl. 1:132 with picture Nobel Prizes (Chemistry), N:229 Iones, LeRoi See Baraka, Amiri Dallas, D:10 Joliot-Curie, trène (French physicist), Jones, Sir William, J:139 Kennedy, John Fitzgerald (Kennedy's J:137 with portrait Jones, T. Gwynn [Welsh writer] assassination), K:217 Nobel Prizes (Chemistry), N:229 Welsh literature (Later literature), President of the United States (table). Jolley, Elizabeth [Australian writer] P:769 W:151 Australia, Literature of (Modern nov-Jonestown [Guyana] War Powers Resolution, W:37 els), A:832 Cult (Modern cults), Ci:489 Iohnson, Michael (athlete) Jolliet, Louis (French-Canadian ex-Guyana (History), G:435 Olympic Games picture on, 0:441 plorer, 1:137 Jonquil (plant), J:140 with picture Johnson, Philip Cortelyou American Canada, History of (The royal prov-Narcissus, N:25 Jonson, Ben (English dramatist), J:140 architectl. I:133 with picture ince). C:98 Architecture (The International Style). Exploration map on, E:424 Drama (Elizabethan playwrights), A:536; (Ludwig Mies van der lowa, 1:331 D:291 Rohe) A:537; (Architecture today) Marquette, Jacques, M:217 Humour (Puns), H:371 A:538; picture on A:512 Missouri River, M:514 Masque, M:244 Shakespeare, William (Neoclassical New France (Exploration and settle-Johnson, Richard [Australian army chaplain], J:134 ment), N:112 criticism), S:325 Joplin, Scott [American composed] Ruse, James, R:459 Jolly Pirates, The Imusic by Suppél Johnson, Samuel [English author], J:134 Suppé, Franz von, So:430

Jolly Roger

Pirate (How pirates lived), P:520

with portrait

Biography (The 1700's), B:301

Jordan, J:140 with pictures and maps

lovstick (electronic device) Cae also list of Related Articles Iordan, River, 1:146 Computer (Creating and displaying Ioshua tree Amman. A:333 documents and pictures). Cl:255 Tree (Palm, pandanus, and lily trees), Asla picture on, A:632 Flectronic game, E:178 Aviation (Aircraft nationality marks). T:376 Juan Carlos I [king of Spain], 1:153 with Yucca, Y:469 portrait Josiah (king of Judah), 1:148 Flag picture on, F:205 Franco, Francisco (As dictator), F:423 Louise lunit of measurel, 1:149 Middle East, M:453 Royal families (Spain), R:420; picture Palestine Liberation Organization. British thermal unit, B:581 on R:419 Calorie, C:44 P:104 Spain (Recent developments), So:187 Energy (Measuring energy), E:246 Royal families, R:420 with picture; picture on So:171 Heat (Temperature and heat). (Heat and West Bank, W:156 luan de Fuca Ridge (oceanography) energy) H:122, H:117 lordan, Ernst Pascual (German physi-Pacific Ocean (Exploration), P:15 Power, P:731 cistl. 1:146 luan Fernández [islands, Pacific], J:153 Work, W:315 lordan, River, 1:146 Juan, Don Joule, James Prescott British physi-Dead Sea. D:53 See Don luan cistl, 1:149 Israel (The Rift Valley), I:433 with map luárez [Mexico], I:153 Heat (Heat and energy). H:122 lordan (The Iordan River Valley), J:143 luárez, Benito Pablo [Mexican political Mayer, Julius Robert von. M:281 with nicture leaderl, 1:153 Physics (Developments in the 1800's), River (table), R:290 Maximilian, M:273 West Bank (Land and climate). W:157 Mexico (Reform), M:421; (The French Science (Scientific advances in the Inge Blanco, Salvador (Dominican invasion) M:421 1800's), S:148 president ludah lancient country) loule's law Dominican Republic (History), D:261 David (Early life), D:44 Joule, James Prescott, J:149 Jorgensen, Jorgen [Danish adventurer], lerusalem (Ancient times). 1:93 tour ouvert J:146 lews (The divided kingdom), I:113 with Trinidad and Tobago (Culture), T:405 loropo [dance] map: (Foreign domination) 1:113 Journal, D:157 Latin America (Dancing), L:86 Kings, Books of, K:257 Diary. D:157 Venezuela (Recreation), V:330 Palestine (Early history and Hebrew lournal of a Tour to the Hebrides jo's Boys book by Alcottl settlement), P:102 book by Boswell Alcott, Louisa May, A:240 ludah (Biblical figure), J:153 Boswell, James, B:478 los Plateau loseph, J:147 Johnson, Samuel, 1:134 Nigeria, N:210 judah Maccabee (jewish leader), j:153 Journal to Stella book by Swift José Martí Monument Judah, Halevi Swift, Jonathan, So:481 Cuba picture on. Ci:472 See Halevi, Judah Journalism, 1:149 with picture loseph [husband of Mary], J:146 with Judaism, J:154 with pictures See also list of Related Articles picture See also list of Related Articles Fleet Street, F:225 Jesus Christ (Early life), J:97 with pic-Abraham, A:15 Journey Among Men book by Mar-Angel, A:364 Joseph (son of Jacob), J:147 shall Asia (Religions), A:625 Marshall, Jock, M:226 Jews (Beginnings), J:112 Christianity (Beliefs), C:484 journey to Accompong book by Dun-Judah, 1:153 Confirmation, Ci:277 Rachel, R:50 Devil. D:145 Dunham, Katherine, D:350 Joseph Andrews (book by Fielding) Education (Religion and the spread of Journey to the Western Islands of Fielding, Henry, F:70 education), E:92 Scotland [work by Johnson] Novel (The first English novelists), Ethics, E:336 Johnson, Samuel, J:134 N:312 Fast, F:32 joseph i (Holy Roman emperor) lourneyman Feasts and festivals, F:39 Apprentice, A:480 Succession wars (The War of the Israel (Religion), 1:432 Guilds, G:412 Jerusalem (Holy places), J:92 with pic-Spanish Succession), So:378 loseph II [Holy Roman emperor] trine Belgium picture on, B:217 Marta Theresa, M:204 Kabbalah, K:178 Knights and knighthood (Tourna-Roman Catholic Church (Gallicanism), Paul, Saint (Paul's letters and ideas), ments), K:302 R:342 keeph of Arimathea [Biblical figure], Priest, P:776 Jupiter (mythology), J:172 J:148 Religion (History of the world's major jowett, Benjamin [British scholar], j:152 Galahad, Sir, G:9 religions), R:201 Joy of Music, The [book by Bernstein] Holy Grail, H:251 Religion (How the major religions are Bernstein, Leonard, B:260 losephine [wife of Napoleon I], J:148 organized), R:200 Joyce, Eileen (Australian planist), J:152 with portrait Saint (Non-Christian saints), S:27 Joyce, James [irish author], J:152 with Napoleon I (Marriage), N:19 with pic-Temple, T:137 ture; (Divorce and remarriage) portrait Ten Commandments, T:138 Irish literature, 1:381 (Modern Irish lit-N:22 World, History of the (Middle Eastern losephus, Flavius (jewish historian), erature) I:383 civilizations), W:336 Novel (New directions in the novel). 1:148 Judas Iscariot (apostle), J:157 loshi, Uma Shankar (Indian writer) Potter's Field, P:722 India, Literature of (The search for Pound, Ezra Loomis, P:728 Judas tree, J:157 with pictures

Short story, S:393

Joyner-Kersee, Jackie lathletel

Olympic Games picture on, 0:441

Iuddah

See Jidda

modernity), k129

Joshua (biblical figure), **J:148**

Jericho, J:85

divinities M:759

Venus, V:338

hing 2

Space exploration (Launch vehicles). So:132

hee and the Paycock lplay by O'-

Casev

hish literature (The Irish literary revivall, I:383

O'Casey, Sean, O:383

Realism (In drama), R:160

tenta (government), 1:170

Chile (Independence), C:424; (Marxism and military rule) C:426

President (Types of presidential govemment), P:764

tupiter (gas ball)

Dark matter, D:35

lupiter |planet|, 1:170 with pictures Astronomy (The solar system), A:689

Eclipse, E:53

Magnetism (The magnetism of other astronomical bodies), M:57

Space exploration (Probes to Jupiter and beyond), So:145; picture on

kelter (Roman mythology), J:172 Dlana, D:156

God (Cosmic Gods), G:224

luno, 1:170

Mercury, M:363

Mythology (table), M:758; (Roman divinities) M:759

Quirinal Hill, Q:30

Quirinus, Q:30

Thursday, T:233 Venus, V:338

See also Zeus

Jupiter C

Space exploration (Launch vehicles), So:132 with picture

Jura Imountain rangel, J:172 with picture France (The French Alps and Jura Mountains), F:404 with map

Switzerland, So:495 with map

Jurassic forest

Forest picture on, F:351 Jurassic Period

Australia (Mesozoic Era), A:767 Dinosaur (Kinds of dinosaurs), D:177;

Itable) D:178; picture on D:175

farth, E:31 table on E:30; (The Meso-Zolc Era) E:27

Forest picture on, F:351

Prehistoric animal (Birds), P:746 with diagram

Jurgen book by Cabell

Cabell, James Branch, C:3

Juris prudentes

Law (Ancient Roman law), L:113

jurisdiction

Covernment, G:268

Interprudence

Law (Ancient Roman law), L:113 Juror (law)

Jury, J:173

kary (law), J:173 Court, Ch399

Grand Jury, G:294

Henry II, H:151

Inquest. L239

ludge. J:158

Magna Carta (Promises in the charter), M150

Trial T:395

lus civile

Rome, Ancient (The law), R:377

lus gentium

Rome, Ancient (The law), R:377

lus sanguinis

Citizenship (Birth), Cl:15

Nationality, N:45

lus soli

Citizenship (Birth), Ci:15

Nationality, N:45

just and the Unjust. The book by

Cozzensl

Cozzens, James Gould, Ci:412

just Out of College [play by Adel, Ade. George, A:42

Just So Stories (book by Kipling) Kipling, Rudyard (His works), K:286

just William (book by Crompton) Crompton, Richmal, Cl:450 with pic-

Justice

See Judge

Justice of the peace [title], k:174

Breach of the peace, B:547

justifiable homicide

Homicide, H:256

Justification by faith [religion]

Luther, Martin, L418

Lutherans (Doctrine), L:420

Paul, Saint (Paul's letters and ideas).

Reformation (Martin Luther), R:181 Justin the Martyr, Saint, J:174

Justine (book by Durrell)

Durreli (Lawrence Durrell), D:356

Justine, or the Misfortunes of Virtue [book by Sade]

Sade, Marquis de, S:8

Justinian I (Byzantine emperor), J:174 Byzantine Empire (The empire under Justinian), B:701 with picture

Clothing picture on, Cl:100

Istanbul (History), 1:442

Italy (The Middle Ages), 1:466

Justinian Code, J:174

Law (Civil-law systems), L:111; (Ancient Roman law) L:113

Plato (Plato's place in Western

thought), P:591 Rome (Early days), R:369

Silk (Silk making spreads), S:425

Theodora, T:213

World, History of the (The Byzantine Empire), W:344

Justinian Code, J:174

Byzantine Empire (The empire under Justinian), B:701

Civil law, Ci:40

Justinian I, J:174

Law (Civil-law systems), L:111 Library (The Middle Ages), 1:231

World, History of the (The Byzantine Empirel, W:344

lute (fibre), 1:174

Bangladesh (Agriculture), B:87; (Manufacturing) B:87 with picture

Burlan, B:655

Fibre (Plant fibre), F:67

Rope (Natural-fibre rope). R:394

Textile (Natural fibres), T:169

lutes [people], j:175

England (The Germanic invasions),

Hampshire (History), H:36

Judland Iregion)

Denmark, D:108; (Land) D:113 with pictures and map

lutes, 1:175

jutland, Battle of, J:175

Battleship (The modern battleship), Distan

Jellicoe, Sir John, J:81

Navy (World War 1), N:61

World War I (The war at sea), W:370

luvenai (Roman poet), [:175

Latin literature (Early Latin literature). 1:98

Satire, S:99

juvenile court, J:175

luvenile crime

Juvenile court, J:175

Police (Juvenile and social work).

P:640

Reformatory, R:183

Juvenile delinquency, j:175

Adolescent (Delinquency), A:55

luvenile court, J:175 luvenile detention centre

Reformatory, R:183



K (letter), K:177 with pictures

K (symbol)

Potassium, P:717

K2 [mountain], K:178

Himalaya (Peaks), H:207 Mountain, M:665; (table) M:668 with

diagram Pakistan (The Northern and Western

Highlands), P:95 Kaaba (Great Mosque, Mecca), K:178

Hajj, H:19

Islam (Muhammad began preaching),

I:413; picture on I:414 Mecca (The city), Mc302 with picture

Muhammad, M:684 Muslims (Before Muhammad), M:742

Saudi Arabia picture on, S:107 Kabaddi Igamel

Asian Games, A:665

Kabbalah [religion], K:178

Hebrew language and literature (Medleval works), H:129

Jews (Jews in Christlan Europe), J:114

Kabbarli

See Bates, Dalsy

Kabir (Indian poet), K:178

Kala-azar [disease], K:180

Kalahari Desert, K:180 with picture

Kampala, K:184 India Literature of (Hindl literature). and man Botswana (Land and climate), B:483 Uganda picture on II-A Kampuchea with picture Kabuki ilananese dramal See Cambodia Dancing (Oriental dancing). D:24 Bushmen, R:671 Sap. \$463 Kandabar Drama (Japan). D:296 with picture South Africa (The Namih and Kalahari See Oandahar Japan (Theatre). 1:45 with picture Kandinsky, Wassily Russian artist deserts), So:63 with man Japanese literature (The Tokugawa pe-Kalakaua (king of Hawaii) K:184 with picture riod), I:64 Painting (Expressionism), P:80: picture Hawaii (History), H:81 Japanese print (The master print art-Pearl Harbor Naval Base. P:235 on P:82 (sts), E65 Kändler, Johann [German artist] Kalanga [people] Music (lapanese music), M:735 Dresden china, D:307 with picture Botswana (People), B:482 Kabul [Afghanistan]. K:178 Porcelain (German porcelain) P60 Afghanistan, A:110 with picture Kalbarri | Australia) Western Australia (Visitor's quide), Kandy-Kolored Tangerine-Flake Kádár, János [Hungarian political Streamline Baby book by World W/V7G leader]. K:178 Wolfe, Tom. W:288 Hungary (Communist Hungary). H:383 Kale, K:181 Kane, Paul (Canadian painter) KIM Kaleidoscope (toy), K:181 with pictures Kadavif [food] Kanem Iformer country, Africa, Killi Turkey (Food and drink), T:458 Kalevala Imusic by Sibeliusl Cameroon (History), C:60 Finland (The arts), F:118; (Control by Kaddish Nigeria (Early kingdoms), N:213 Russia) F:122 Judaism (Special occasions). 1:156 Kanga (clothing) Sibelius, lean, S:405 Kaesong (North Koreal, K:178 Tanzania (Clothing), T:33 Kalgoorlie (Australia), K:181 Kaffir ifood), K:179 Kangaroo, K:185 with pictures Kali [Hindu goddess] Kaffiyeh [clothing] Australia (Language), A:751 Hinduism (Divinities), H:209 with pic-Arabs (Clothing), A:491 Australia (Native animals). A:766 with Jordan (Way of life), J:142 Kafi, Ali [Algerian political leader] Thug, T:232 Conservation (Australasia), Ch303 Kalidasa (Indian poet), K:182 Algeria (Recent developments), A:266 Marsupial (Kinds of Marsupials), Kafka, Franz (Czech writer), K:179 with Drama (India), D:296 M:228 with picture Gupta dynasty (Cultural life under the portrait See also Pademeion: Tammar; Wallah Czech Republic (Arts), Cl:518 Guptas), G:430 Kangaroo apple German literature (Expressionism), India, Literature of (Classical Sanskrit Solanum, So:23 literature), k:125 Kangaroo court, K:188 Novel (New directions in the novel). Kalimantan (Borneo), K:182 Kangaroo Island (Australia), K:168 Borneo (The land and its resources). N:313 Baudin, Nicolas, B:159 Kagu R-470 South Australia (Colonization), Sorth Bird picture on, B:335 Indonesia (Borneo), I:187 Kangaroo paw, K:189 Kahn, Louis Isadore [American archi-Kalinga, Conquest of (Ancient India). Kangaroo rat, K:189 tectl. K:179 K:183 Architecture (Architecture today), lerboa, 1:85 Asoka, A:665 Kania, Stanislaw [Polish government A:538 Kaliningrad (Russia), K:183 officiall, K:189 Kahoolawe (island) Kalmia Poland (Recent developments), P.53 Hawali (Land), H:80 Mountain laurel, M:671 Kanishka [Asian ruler], K:189 Kailasanatha temple (Ellora) Kalmus, Herbert T. [American chemi-Kannada (language) Sculpture (As part of architecture), cal engineer! Dravidians, D:303 S:189; picture on S:190 Technicolor, T:82 Kanniyakumari (India) Kair Kalpa Sultra [book] Tamil Nadu (Places to visit), T:22 Indonesia (Clothing), 1:184 jainism (Mahavira), £12 Kano [Nigeria] Kainii Dam [Nigeria] Kalvm Hausa, H:79 with picture Niger River, N:205 Kazakhstan (People), K:204 Nigeria (Population and ancestry), Kainji Lake [Nigeria] Kamakura period (Japanese history), N:207 Niger River, N:205 Kano school [[Japanese artists], Kill Kaiser (title), K:179 Sculpture (Japan), \$:201 Kalser, Georg [German playwright], with picture Kamarupa lancient kingdom) Kanpur (India), K:190 with picture K-180 Assam (History), A:670 Kansas [U.S.A.], K:190 Drama (Expressionism), D:299 Kamchadal [people] Popular sovereignty, P:684 Kalser, Henry John | American Industri-Arctic, A:543 Kansas City (U.S.A.), K:191 Kamchatka Peninsula [Russia], K:183 alist], K:180 Kansas-Nebraska Act [1854] Kaiser Wilhelm Memorial Church Earthquake (table), E:33 American Civil War [The conflict ord Kamehameha I [king of Hawaii], K:184 [Rerlin] slaveryl, A:305 Berlin picture on, B:248 with portrait Popular sovereignty, P:684 United States, History of the, U.250 Hawaii (History), H:81 Kaka Kant, Immanuel [German philosophen Bird picture on, B:334 Kamikaze [Japanese pilot], K:184 Kakadu National Park (Australia). World War II (The liberation of the Astronomy (Explaining the origin of Philippines), W:399 with picture IC:180 Kakapo [bird], K:180 Kammermusik (work by Hindemith) the solar system), A:698 Earth (The birth of the solar system) Parrot (Kinds of parrots), P:200 with Hindemith, Paul, H:208 Kamo no Chomei ljapanese author! picture

Japanese literature (The medieval pe-

riod), [:64

Ethics (Systems of ethics), E:336

Existentialism. E:415 Fichte, Johann Gottlieb, F:69 Idealism, 1:26 Philosophy (The philosophy of Immanuel Kant), P:425 Political science (Liberalism), P:654 Schopenhauer, Arthur, S:134 Transcendentalism, T:338 Kentha lembroidery West Bengal (Local crafts). W:159 Kentrowitz, Adrian American surgeonl Heart (Development of heart surgery). KANEL Inclinical party See Kenya African National Union Kanuri (people) Niger (People), N:203 Kanzu (clothing) Tanzania (Clothing), T:33 Kaolin, K:192 Alumina, A:289 Clay, Cl:70 Feldspar, F:49 Percelain (Hard-paste porcelain), P:688 Pottery (Porcelain), P:722 Kaolinite (mineral) Kaolin, Ke192 Kapama (food)

Economics (Karl Marx and Communismi, E:65 Engels, Friedrich, E:253 Marx, Karl, M:235 Kapitsa, Pvotr (Soviet physicist), K:192

Kapital, Das (book by Mand

Nobel Prizes (Physics), N:228 Kaplan turbine Turbine, T:449 with picture

Bosnia-Herzegovina (People), B:473

Kapak [fibre]. K:192 with picture Softball (Field and equipment), So:18 Kaposi's sarcoma (disorder)

AiDS (Opportunistic illnesses), A:179 Kara Kum [Turkmenistan], K:192. Kara Sea | Arctic Ocean], K:193 Karahash

Anatolian shepherd, A:350 Karachi [Pakistan], K:193

Asia (City life), A:635 Karagöz Turkey (The arts), T:459

Karagiye Depression [Kazakhstan] Kazakhstan (Land and climate), K:205 Karajan, Herbert von [Austrian con-

ductor), Kana Karaka, K:193

Karakoram (mountains, Asia) Himalaya, H:202

Karakul lanimall, K:193 with picture Alghanistan (Agriculture), A:114 Sheep (Coarse-woolled sheep), S:340;

picture on \$:339 Uzbekistan (Economy), U:294 Karakum ideserti, K:194

Turkmenistan (Land and climate), T:467

Karakum Canal Turkmenistan (Economy), T:467 Karamanlis, Constantine | Greek politi-

cal leader See Caramanlis, Constantine Karamoiong (people)

Uganda (People), U:2 Karanga (people)

Zimbabwe (History), Z:496 Karate [martial arts], K:194 with picture lapan (Recreation), 1:43

Martial arts. M:230 Karella (Russia), K:195

Finland (The new republic). F:122: (World War II) F:122

Karelian isthmus (region, Russia) Russo-Finnish wars (The Winter War'). P-502

Kariba dam Dam (table). D:13 with picture

Zambezi River, Z:487 Zambia. Z:487 with map

Zimbabwe (Industry), Z:495 with map Karimov, Islam (Uzbek political leader)

Uzbekistan (History), U:294

Karitane System King, Sir Truby, K:255 Karlye Camil

Byzantine art (Frescoes and mosaics),

Karkadal (drink) Sudan (Food and drink), So:382

Karkota dynasty

jammu and Kashmir (History), 5:27 Karl Franz loseph

See Charles I lemperor of Austrial Karl-Marx-Stadt

See Chemnitz Karlfeldt, Eric Axel [Swedish writer]

Nobel Prizes (Literature), N:232 Sweden (Literature). So:467

Karloff, Boris British actorl, K:198 with picture

Karlovy Vary (Czech Republic), K:195

Karlowitz, Treaty of [1699] Croatia (History), Cl:446

Karlsbad

See Karlovy Vary

Karma [religion], K:195 Buddhism (The middle way), B:616

Hell. H:144 Hinduism (Reincarnation), H:210 Reincarnation, R:190

Religion (A doctrine of salvation), R:198

Sikhism, S:416 Калта-уода

Yoga, Y:454

Karnak, Temple of

Egypt, Ancient (Gods and goddesses), E:122

Setl J. S:278

Sphinx (Egyptian sphinxes), So:215 Thutmose III. T:234

Karnatak music

India, Dance and music of (Music), 1:94 Karnataka [Indian state], K:195 with pic-

tures and map

Károlyl, Count Michael [Hungarian political leader Hungary (Between world wars), H:382

Karoo (South Africa), K:200

Cape Province (Land), C:137 South Africa (The Cape Mountain Range). So:63 with map Western Cape (Land and climate),

Karratha (Australia), K:200

Karri itreel, K:200

Eucalypts picture on. E:350 Karsh, Yousuf Canadian photogra-

pherl. K:200 Karst (limestone)

Siovenia (Land and climate), S:493

Kartini, Raden Aleng, K:200

Kasha [food]

Ukraine (Food and drink), U:8

Washerste.

See Jammu and Kashmir

Kashmiri

India, Languages of (Modern Indo-European languages), 1:123

Kassem, Abdul Karim Ilraqi political leaderl

Iraq (The republic), 1:347

ludo (ludo contests), j:160

Katemewaza ludo. 1:159

Katanga

Lunda, L:414

Zaire (Civil disorder), Z:486; (Recent developments) Z:486

Katerina (poem by Shevchenko) Shevchenko, Taras, 8:358

Kathakali (dance)

india. Dance and music of picture on, 1:93 picture on 1:94

Kithe Kruse dolls

Doll (The early 1900's), D:250 with picture

Katherine (Australia)

Northern Territory (Government), N:279

Kathlawar Peninsula

Gujarat (Land features), G:422

Kathmandu [Nepal], K:200 with picture Nepal (People), N:75 with picture

Katin, Peter British planisti, K:201 Katipo

Redback spider, R:175

Katipunan (secret society)

Bonifacio, Andrés, B:449 Katoomba (Australia)

Blue Mountains, B:456

Katydid, K:201 with picture

Grasshopper (Long-horned grasshopper), G:306

Insect picture on, k242

Kauai (island)

Hawall (Land), H:80

Käthchen von Heilbronn (book by Kie-

Kleist, Heinrich von, K:295

Kauffmann, Angelica (Swiss-born

painterl, K:201

Kaufman, George S. (American playwrightl, K:202

Musical comedy (Musical comedy matures), M:739

Kaunas (Lithuania), K:202

Kaunda, Kenneth David (president of Zambial, K:202 with portrait President (Unlimited presidency), Zambia (History), Z:488 Kauri [tree], K:202 New Zealand (Plant life), N:160 Kaurna (people), K:202 Kava [drink] Kava, **K:203** Pacific Islands (Recreation), P:7 Kava [plant], K:203 Pacific Islands (Recreation), P:7 Kavanagh, Patrick [Irish poet], K:203 Irish literature (Fiction and poetry), Kawasaki disease, K:203 Kay-Shuttleworth, Sir James Phillips [British educationalist], K:203 Kay, John (British inventor), K:203 Hargreaves, James, H:60 Industrial Revolution (Weaving machines), **1:213** Invention (Why people invent), 1:310 Textile (The Industrial Revolution), T:175 Kayak (boat), K:203 with picture Kayaking Olympic Games (The Summer Games), 0:434; table on 0:438 Kaye, Danny American comedianl, K:204 with portrait Kayibanda, Gregoire (Rwandese political leader] Rwanda (History), R:507 Kazakhstan, K:204 with pictures and Bush, George (Foreign affairs), B:669 Commonwealth of Independent States, Cl:222 Flag picture on, F:205 Nuclear weapon (Limiting numbers), N:340 Kazan [Russia], K:207 Kazan, Elia (American director), K:207 Film industry (Best achievement in directing), F:96 Kazan Retto Iwo Jima, 1:478 Kazantzakis, Nikos iGreek authorl, K:207 Kaziranga [wildlife reserve] Assam (Land), A:670 Kea, K:207 with picture Parrot (Kinds of parrots), P:200 Sheep (Enemies of sheep), \$:341 Kean, Edmund (British actor), K:207 Shakespeare, William (The 1800's), Keating, Geoffrey [irish historian], Irish literature (Modern works in Gaelic), 1:382 Keating, Paul [Australian political

leader], K:207 with portrait

and 1990's), A:826

ture

Australia, Government of (The 1980's

Australian Labor Party, A:846 with pic-

International law (After World Ward Keaton, Buster [American film actor], 1:292 K:208 with portrait Kellogg, Frank Billings (American gov Keats, John (British poet), K:208 with portrait ernment official], K:212 Kellogg-Briand Peace Pact, K:212 Kebab [food] Kellogg, W. K. American businessman Iran (Food and drink), I:335 K:212 Kebara [Israel] Prehistoric people (The single origin Kells, Book of See Book of Kells theory), P:757 Keble, John (British scholar), K:208 Kelly, Ned [play by Stewart] Stewart, Douglas, So:323 Oxford Movement, 0:532 Kelly, Dan [brother of Ned Kelly] **Keck Telescope** Kelly, Ned (Outlawed), K:213 Astronomy (Astronomy today), A:700 Telescope (Recent developments in Kelly, Ellen Imother of Ned Kelly telescopes), T:116 with picture Kelly, Ned (Early life), K:213 Keck, George Fred [American architect] Kelly, Eugene Curran Solar energy (History), So:25 See Kelly, Gene Kedah, K:209 with map Kelly, Gene [American dancer], K:212 with picture Kedieston Hall [England] Kelly, Grace Princess Grace of Adam, A:28 Monacol, K:213 with portrait Derbyshire (Places to visit), D:127 Film industry (Best performance by an Keel Ishipl actress), F:97 Sailing (Hull), S:22; (Controlling direc-Monaco (History), M:540 tion) S:24 Rainjer III, R:120 Ship (table), \$:363 Kelly, John "Red" [father of Ned Kelly] Vikings (The Vikings as shipbuilders), Kelly, Ned (Early life), K:213 V:390 Kelly, Michael (Irish tenor), K:213 Keel-billed toucan Kelly, Ned |Australian bushranger|, Bird picture on, B:330 K:213 with picture Keelboat See also list of Related Articles Flatboat, F:221 Bushrangers, B:672 **Keeling Islands** Sherritt, Aaron, S:356 Cocos Islands, Cl:144 Kelly, Sir Gerald (British art expert), Keep the Home Fires Burning Isong K:213 by Novello Kelly, William Novello, Ivor, N:314 Iron and steel (The birth of modern Keepit Dam [Australia], K:209 steelmaking), I:401 Keeshond, K:210 Keloid (scar tissue), K:214 Dog picture on, D:235 Keffiyeh (clothing) Scar, S:122 Kelp, K:214 with picture West Bank (People), W:157 Algae (Brown algae), A:250 Keher, Eddie lirish hurling player), lodine (Sources of lodine), 1:325 K:210 with portrait Kelvin [unit of measure] Keighley Gas (Gas laws), G:58 with picture Bradford [England], 8:505 Temperature, T:136 Keitel, Wilhelm [German military com-Kelvin, Lord British physicist, K:214 mander), K:210 Cable (The Atlantic telegraph cable) Keith, Sir Arthur British anatomist, K:210 C:6 Communication (In the early 1800s) Kekkonen, Urho Kajeva (president of Finland], K:210 CI:231 Joule, James Prescott, J:149 Finland (Postwar developments), F:123; Physics (Developments in the 1800s) (Recent developments) F:123 Kekulé von Stradonitz, Friedrich Telegraph (Across the Atlantic, Till) P:476 Benzene, B:241 Kelvin scale Chemistry (Development of organic Absolute zero, A:16 chemistry), C:371 Gas (Gas laws), G:58 Kejang [Majaysia] Kelvin, Lord, K:214 Selangor (Places to visit), \$:243 Temperature, T:136 Thermometer (Temperature scales) Kelantan (Malaysia), K:210 with map Keller, Gottfried (Swiss author), K:211 T:216 Keller, Helen Adams (American public figure), K:211 with pictures Kemal Atatürk See Atatürk, Kemal American literature (Nonfiction writ-Kemantche Imusical instrument ers), A:316 Violin picture on, V:399 Kemble, John Philip [English actor] Autograph picture on, A:871 Handicapped, H:44

Kellogg-Briand Peace Pact, K:212

France (Between World Wars), F:415

Shakespeare, William (The age of Gar

Kenya African National Union (KANU)

Kenya (Politics), K:225; (Opposition to

Musical comedy (Musical comedy ma-

tures), M:739

Kernel

[political party]

Kennedy, Kathleen Kemble, Roger [English actor] the British) K:230; (Building the Kennedy (The Kennedy daughters), Kemble, K:214 new nation) K:230 Siddons, Sarah Kemble, S:410 K:216 Moi, Daniel Toroitich arap, M:327 Kennedy, Margaret [British writer], Kenya People's Union (KPU) K:218 Egypt, Ancient, E:120 Kenya (Building the new nation), K:231 Kennedy, Patricia Kemljoki River Kenyapithecus [anthropology] Kennedy (The Kennedy daughters), Finland, F:119 Leakey family (Louis Seymour Bazett Kempenland Leakey), L:136 Kennedy, Rose Fitzgerald (wife of J. P. Belgium, B:219 Kenyatta, Jomo [president of Kenya], Kempis, Thomas à Kennedy) K:231 with portrait Kennedy, Joseph Patrick, K:215 See Thomas à Kempis Kenya (Opposition to the British), Kennedy, Rosemary Kendal (England) K:230: (Building the new nation) Kennedy (The Kennedy daughters), Cumbria (Places to visit), Cl:496 K:230 K:216 Kendall, Henry [Australian writer] Kikuvu, K:247 Kennedy Space Centre (Florida) Australia, Literature of (The develop-Mau Mau, M:266 Space exploration (Orbiting the moon), ment of poetry), A:830 Kepler, Johannes [German astrono-Kendall, Henry [Australian poet], K:215 So:149 merl, K:231 Kennelly-Heaviside layer Kendall, Thomas [British school-Astronomy (The beginnings of modern Heaviside, Oliver, H:124 teacherl, K:215 astronomy), A:697 Kennet [England], K:218 Kendo (martial arts) Brahe, Tycho, B:507 Kenneth II [king of Scotland] Japan (Recreation), J:43 Ellipse, E:217 Kings and queens of Britain and Ire-Kendrew, Sir John Cowdery (British Gravitation, G:308 land (Scotland), K:263 physicistl, K:215 Moon (Legend and folklore), M:594 **Kennington Oval** Keneally, Thomas [Australian writer], New Testament (The birth of Jesus), Cricket (Organization), Ci:429 K-215 N:136 Lambeth, L:34 Australia, Literature of (Modern nov-Physics (The Renaissance), P:474 Kenny, Elizabeth [Australian nurse], els), A:832 Planet (Orbiting the sun), P:534 K:218 with portrait Kenliworth Castle (England) Science fiction (Beginnings), S:151 Kensington and Chelsea [England], Warwickshire (Places to visit), W:49 Science (The rebirth of science), 5:145 K:218 with picture Kenmare River [Ire[and] Space exploration (The dawn of the London (Residential areas and hous-Kerry picture on, K:238 space age), So:140 ing), L:368 Kennan, George Frost [American dip-Kepler's laws Kensington rune stone, K:218 lomat], K:215 Planet (Orbiting the sun), P:534 Kent (England), K:218 with pictures and Kennedy Robert Francis (American Kerala (Indian state), K:232 with pictures government official), K:215 with pormap and map See also list of Related Articles India (Other religions), I:65 Arms picture on, A:585 Kennedy, Benjamin (English school-Keratin, K:236 Heptarchy, H:158 master Feather, F:40 Kent, Rockwell (American painter), Shrewsbury School, S:400 Fish (Fins), F:167 K:222 with picture Kennedy, Edmund [Australian ex-Hair (The structure and growth of hair), Kent, William British architecti, K:222 plorer), K:216 with map Architecture (The Paliadian revival), Jacky Jacky, 1:8 Heredity (Genes and proteins), H:170 Kennedy, Edward Moore (American A:529 with picture Horn, H:280 Kentigern, Saint, K:222 senator), K:216 with portrait Skin (Epidermis), \$:469, (Hair, nails, Kenton, Stan iAmerican bandleaderi, Kennedy, Eunice and glands), S:469 Kennedy (The Kennedy daughters), K:222 Keratoconus Jazz (New directions), J:78 K:216 Contact lens (Hard contact lenses), Kennedy, jacqueline Kentucky (U.S.A.), K:222 with picture CI:314 Onassis, Aristotle Socrates, 0:451 and map Eye (Diseases of the cornea), E:442 Kentucky Derby [horse race], K:223 Kennedy, Jean Kerekere Horse racing (Types of horse races), Kennedy (The Kennedy daughters), Fiji (Population and ancestry), F:76 K:216 H:307 Kerensky, Alexander Feodorovich, Kennedy, Jimmy (Irish songwriter), Kentucky, K:222 K:236 Louisville, L:402 Lenin, V. I. (Return from exile), L:171; Kennedy, John Fitzgerald (U.S. presi-"Kentucky Rain" (song) (The October Revolution) L:171 dentl, K:216 with pictures Presley, Elvis, P:770 Union of Soviet Socialist Republics Dallas, D:10 Kentucky rifle (The February Revolution), U:36 Johnson, Lyndon Baines, J:133 with Rifle (History), R:275 Kermis Kerrya, K:224 with pictures and maps picture Netherlands (Holidays and recreation), Oswald, Lee Harvey, O:516 See also list of Related Articles N:90 Radhakrishnan, Sarvepalli picture on, Aviation (Aircraft nationality marks), Kern, Jerome (American composer), K:236 Space exploration (Apollo: Mission to Flag picture on, F:201 Hammerstein, Oscar, II, H:32 the moon), So:148 Kikuyu, K:247

Mount Kenya, M:660

Standard of living (table), So:274

Tanzania (The united republic), T:36

Kennedy, Joseph Patrick [father of J. F.

Kennedyl, K:215

rick), S:326 with picture

Siddons, Sarah Kemble, S:410

Warren Report, W:40

Kennedyl, K:215

Kennedy, Joseph P. Jr. [brother of J. F.

Florida, F:233

Fiorida Keys, F:235

Key word Maize, M:71 Information retrieval, 1:232 Nut. N:359 Key, Francis Scott [American lawyer], Rice (Structure), R:261 K:240 with portrait Seed (Kinds of seeds), S:235 Baltimore (Economy), B:69 Wheat (Food for people), W:215; National anthem, N:33 (Structure) W:216 with diagram Star-Spangled Banner, Sc:292 Kerogen Keyboard Oil shale, 0:420 Computer (How a computer operates), Petroleum (The United States and Can-Ch256: (Terminals) Ch258 ada), P:338; (How petroleum was Monotype (How the Monotype works), formed) P:339 M:570 Synthetic fuel, So:518 Keyboard Instrument Kerosene, K:236 Music, M:729 with pictures Paraffin, P:160 Piano, P:482 Petroleum, P:335 Keyboard Practices (music by Bach) Kerosene lamp Bach, Johann Sebastian (His works), Fire (Light), F:127 Invention picture on, I:312 Keynes, John Maynard (British econo-Lamp picture on, L:37 Kerouac, Jack (American author), K:236 mistl. K:240 Capitalism (Changing attitudes toward American literature (Fiction and other capitalism), C:146 prose), A:320 Consumption, Ch313 Kerr, Sir John Igovernor general of Economics (New solutions for old Australia, K:237 problems), E:65 Australia, History of (The dismissal), Inflation (Theories about the causes of A:825 Kerrier (England), K:237 inflation), 1:230 Robinson, Joan Violet, R:304 Kerry [ireland], K:237 with pictures and Keynesian Theory Depression (Fiscal policy), D:125 Arms picture on, A:587 Inflation (Theories about the causes of Kerry blue terrier, K:239 inflation). I:230 Dog picture on, D:233 Kerwin, Joseph P. [American astronaut] Robinson, Joan Violet, R:304 Keynote (music) Space exploration (Skylab), So:155 Key, K:240 Kesey, Ken (American writer) American literature (Fiction and other Keypad Telephone (The dialling mechanism), prose), A:320 T:106 Kesteven Lincolnshire, L:286 Keys Kestrel, K:239 Ash, A:619 Falcon (Smaller falcons), F:12 with pic-Keys of the Kingdom, The book by ture Cronin] Kettering [England], K:239 Cronin, A. j., Cl:452 Kettering, Charles Franklin (American KGB, K:241 inventori. K:239 Police (Russia), P:642 Car (Technological advances), C:169 Khachaturlan, Aram Ilich (Georgian Invention (The 1900's), 1:319 composer], K:241 Khadija [wife of] Starter (Car starters), So:295 Kettle hole, K:240 Muhammad (Early life), M:685 Khakar, Bhupen (Indian artist) Kettledrum Drum [musical instrument], D:325 India, Art of (The colonial and modern Music (Percussion instruments), M:729 periods), 1:89 with picture Khaki [cloth], K:241 Kew Gardens, K:240 Khaki Campbell (duck) Herbarium, H:161 Duck picture on, D:340 London (Parks), L:371 Khalid [king of Saudi Arabia], K:241 Saudi Arabia (Recent developments), Kewpie doll Doll (The early 1900's), D:247 with pic-Khalid ibn al-Walid [Arab general], K(24) Kev Lock, L:348 with pictures Khalidasa [Indian writer] Sanskrit literature, S:75 Key [music], K:240 Music (Harmony), M:730 Khamenei, Ali [Muslim religious leader] Iran (Iran today), 1:340 Steel band, So:310 Khamsin [weather] Key signature Music diagram on, M:733 Egypt (Climate), E:112 Israel (Climate), E435 Key West [U.S.], K:240

Khan linnl

Islamic art (Other buildings), 1:419

Khan, Imran [Pakistani cricketer] Khanate (government) Kharkov [Ukraine], K:241 Khartoum [Sudan], K:241

Khatchkars [architecture] Armenia (People), A:579 Khayyam, Omar See Omar Khayyam Khedive title Egypt (Muhammad Ali and moderniza tion), E:116 Khmelnitsky, Bohdan (Cossack leader Likraine (Lithuanian and Polish rule). Khmer |people| Cambodia, C:45 Indochina, 1:181 Khmer Rouge Cambodia, C:45 Kholkhoin (people), K:241 African (The African geographical race). A:122 Hottentot, H:320 South Africa, History of (The Khoisan), So:76 with picture; (The Khoik hoin reaction) So:78 Khoisan (people), K:242 Africa (African geographical race), A:122 Cape Province (History), C:137 Eastern Cape (History), E:46 Free State (History), F:432 Gauteng (History), G:65 Natal, N:28 Northern Cape (History), N:266 South Africa, History of,, So:76 with picture Transvaai (History), T:364 Khoisan language Africa (Black African languages), A123 Bushmen, B:671 San. S:63 Khomeini, Ruhollah [islamic religious leader], K:242 with portrait Iran (Revolution and the Islamic Republic), 1:339 with picture Middle East (Recent developments). M:457 Mohammad Reza Pahlavi, M:527 Rafsanjani, Ali Akbar Hashemi, Ras Khorat Plateau Thailand, T:182 Khotla Lesotho (People), L:185 Khovanshchina [music by Mussorgily Mussorgsky, Modest, M:746 Khrushchev, Nikita S. [Russian polito] leader], K:242 with picture Brezhnev, Leonid Iliych (Rise to Cold War (The Cold War continued) power), B:556 Communism (Under Stalin's subces

Khan [title], K:241

Imran Khan, 1:47

So:382

Cricket picture on, Ci:433

Kyrgyzstan (History), K:350

Sudan, So:380 with map; picture on

Drury Lane, D:326 Inland waterway picture on, 1:235 50rs), Ci:241 Kiel, Treaty of [1814] Eisenhower, Dwight David (Second Denmark (Wars with Sweden), D:116 Administration), E:134 with pic-Norway (Union with Sweden), N:300 Kiely, Benedict (Irish literary critic), Kennedy, John Fitzgerald (Cuba), K:217; (Berlin) K:217 with picture K:246 Irish literature (Irish literature today), Kosygin, Aleksel Nikolaevich, K:331 (+22A Politburo, P:647 Kierkegaard, Søren Aabye [Danish Russia (The Cold War), R:491 Clay, Ci:70 philosopher), K:246 Space exploration (The space race be-Denmark (Arts), D:112 gins), So:141 Existentialism, E:415 Zhukov, Georgi Konstantinovich, Kieselguhr (explosives) 7:493 Dynamite (History), D:365 Khufu iking of ancient Egypt), K:243 Kiev (Ukraine), K:246 Pyramids (The pyramids of Giza), P:873 Khusrau, Amir [Indian author], K:243 Babi Yar, B:3 A4-3RH Ukraine, U:4 with picture india, Dance and music of (History), Kilocalorie Kievan Rus 1:95 Calorie, C:44 Belarus (Early days), B:210 Khuzistan Piain Russia (Ancestry), R:469; (The state of Iran, I:337 Kievan Rus) R:485 Khyber Pass, K:243 with picture Ukraine, U:4, U:12 Afghanistan (Transportation and com-Kiewa Hydro-Electric Scheme [Ausmunication), A:114 Pound, P:728 tralial, K:247 Kibbeh (food) Weight, W:133 Kigali (Rwanda), K:247 West Bank (People), W:157 Rwanda, R:506 Klbbutz, K:243 Kikoi wrap [clothing] Asla (Country life), A:631 Tanzania (Clothing), T:33 Cooperative, (Marketing cooperative), Kikuyu, K:247 Bantu, B:98 with picture Israel (Rural life), 1:432 Kenya (Opposition to the British), Klek K:230 Swimming (Swimming kicks and on M:387 Mau Mau, M:266 strokes), So:484 Kikuyu grass, K:247 Kick'em Jenny (submarine volcano) Watt. W:101 Kilby, Jack [American engineer] West Indies (Land), W:169 Kilowatt-hour Invention (Recent developments), Goat, G:221; (Feeding kids)) G:222 Kildare (Ireland), K:247 with picture and Kkld, William [Scottish pirate], K:244 Pirate (Pirates of the Caribbean and map Arms picture on, A:587 other areas), P:520 Kilt, K:251 Kildare, Earl of Kidderminster Ireland, History of (The Irish recovery), Hereford and Worcester, H:176 ture Kidman, Sir Sidney (Australian station Kilimanjaro [East Africa], K:248 owner], K:244 Kenya (The highland), K:228; picture Kidnapped (book by Stevenson) ол К:224 Stevenson, Robert Louis, So:321 Mountain (table), M:668 with diagram Kidnapping, K:244 K:251 Kidney lanatomyl, K:244 with diagrams Tanzania, T:31 Kilkenny [Ireland], K:249 with map See also list of Related Articles Arms picture on, A:587 Blood diagram on, B:395 Killanin, Lord (Irish businessman), Diabetes (Complications), D:152 Diuretic, D:204 K:250 Kimchi [food] Frog diagram on, F:465 Killarney [Ireland], K:250 Cland (table), G:182 Killarney, Lakes of Ireland (Rivers and lakes), 1:358 Human body (The urinary system), Kerry, K:237 with picture H:357 Kidney bean Killarney, K:250 Bean (Kinds of beans), B:166 with pic-Lakes of Killarney, L:32 with map Killdeer, K:250 with picture kidney stone, K:245 Kimono Bird picture on, B:344 Kidney transplant Killer bee Tissue transplant (Matching tissues), Bee (Sting), B:186 T:264 Killer whale, K:250 Kids Are Airight, The [film] Animal picture on, A:394 Dolphin (Other species), D:252; (Swim-Who, The, W:241 Kiefer, Anselm [German painter], K:246 K:251 ming and diving) D:253; picture Kiel [Germany], K:246 Kincardineshire on D:251 Grampian Region, G:289 Kiel Canal, K:246 Whale picture on, W:205

Killigrew, Thomas

Canal (table), C:111

Klimarnock and Loudoun (Scotland), Kilmer, Joyce [American author], K:250 Brick (Firing bricks), B:558 with picture Cement and concrete (Burning), C:313 Ceramics (Making ceramics), C:326 with picture Pottery (Firing), P:724 Stained glass (How stained-glass windows are made), So:263 Kilo [prefix], K:250 Metric system (The decimal arrangement), M:385; (Metric prefixes) Diet (Diets for losing or gaining weight), D:170 Kilogram (unit of measure), K:250 Metric system picture on, M:388 Kilohertz (unit of measure), K:250 Radio (Broadcasting power and frequency), R:75 Kilometre (unit of measure), K:251 Metric system (Length and distance measurements), M:386; (Surface measurements) M:386; pictures Kilowatt [unit of measure], K:251 Electric measurement, E:152 Electric meter, E:153 Electric power, E:157 Kilowatt, K:251 Scotland (Traditions), S:161 with pic-Tartan, T:45 with pictures Kim (book by Kipling) Kipiling, Rudyard (Hls works), K:286 Kim II Sung (president of North Korea), Korea (North Korea), K:329 Kimberley (South Africa), K:251 Kimberleys (Australia), K:251 Western Australia, W:177 Korea (Food), K:323 Kimitake, Hiraoka Mishima, Yukio, M:508 Kimmel, Husband E. [American naval commander] Pearl Harbor Naval Base, P:235 Asia (Life in Japan), A:640 Clothing pictures on, Cl:93, Cl:95 Japan (Clothing), J:42 Tokyo (Food and clothing), T:282 Kincardine and Deeside [Scotland],

Kinchinjunga

See Mount Kanchenjunga	ciety), S:304; (King Lear) S:319
Kindergarten, K:251	with picture, (The Restoration pe-
Early childhood education, E:14	riod) \$:326; (The 1800's) \$:326
Fröbel, Friedrich Wilhelm August,	King Leopold Range [Australia], K:256
F:463	King mackerel
Kindergarten (poetry by Yevtushenko)	Kingfish, K:256 with picture
Yevtushenko, Yevgeny, Y:452	Mackerel, M:19
Kindertötenlieder [music by Mahler]	King movement Maori (History), M:179
Mahler, Gustav, M:68 Kinesics and Context (book by Bird-	King Mycerinus of Egypt and his
whistell	queen
Kinesics, K:253	Sculpture (The first sculptors), \$:192;
Kinesics, K:253	(Egyptian) S:196 with picture
Communication (The study of nonver-	King Philip's War
bal communication), Ci:237	Indian wars (King Philip's War), 1:174
Kinetic energy	Philip, King, P:366
Energy (Potential and kinetic energy),	King Priam [music by Tippett]
E:245 with pictures; (Measuring	Tippett, Sir Michael, T:262
energy) E:246	King snake
Evaporation (How evaporation occurs),	See Kingsnake
E:403	King Solomon's Mines book by Hag-
Motion (Momentum and kinetic en-	gard)
ergy), M:647	Haggard, Sir Henry Rider, H:7
Kinetic friction Friction (Kinds of friction), F:459	King vulture Bird picture on, B:331
Kinetic sculpture	Vulture (New World vultures), V:430
Sculpture (Movement), S:191; picture	King whiting
on S:192	Kingfish, K:256
Kinetic theory of gases	King, Billie Jean (American tennis star)
Chemistry (Development of physical	K:253 with portrait
chemistry), C:371	Tennis (tables), T:147
Gas (How gases behave), G:58	King, Captain Phillip Parker iAus-
Maxwell, James Clerk, M:273	tralian settler]
Kinetoscope	Queensland (Early settlement), Q:25
Edison, Thomas Alva (Inventor-	King, Martin Luther, Jr. American so-
industrialist of West Orangel, E:81	cial reformer), K:253 with picture
Film industry (The invention of moving	Civil disobedience (Is civil disobedi-
pictures), F:98	ence ever justified?), Ci:40
King and I, The [musical]	Nobel Prizes (Peace), N:234 with pic-
Hammerstein, Oscar, II, H:32 Rodgers, Richard, R:330	ture Pacifism, P:17
King and No King, A [play by Beau-	United States, History of the (Poverty
montl	and discrimination), U:260
Beaumont, Francis, B:175	King, Philip Gidley (Australian politica
King (chess)	leaderl, K:254 with portrait
Chess (The board and the men), C:382	Australia, History of (The New South
with diagram; (The moves) C:383	Wales Corps), A:801
King [entomology]	King, Sir Truby New Zealand doctorl,
Termite (Life and habits), T:156	K:255
King (title), K:253	King, Stephen [American writer], K:25!
See also list of Related Articles	King, Tom (British politician), K:255
Divine right of kings, D:206	King, William Francis
King Billy	Flying Pieman, F:282
Lanney, William, 1:56	Kingdom
King Charles spaniel, K:255 with pic-	Kingdoms appear under their key
ture Vine Country	words, as in Sardinia, Kingdom o
King Country Maori (History), M:179	Kingdom, The Imusic by Elgarl Elgar, Sir Edward William, E:210
King crab	Kingdom [biology], K:256
Horseshoe crab, H:310	Animal, A:376
King Edward VII potato	Classification, Scientific (Groups in
Potato, P:718	classification), Ci:67
King George Sound [Australia], K:255	Plant, P:540
King Horn Ipoetryl, K:255	Kingfish, K:256 with picture
King Island [Australia], K:255	Mackerel, M:19
King John [play by Shakespeare]	Kingfisher, K:256

Shakespeare, William, S:311

King Lear (play by Shakespeare)

Shakespeare, William (Elizabethan so-

Mackerel, M:19 ing movement Maori (History), M:179 (ing Mycerinus of Egypt and his Sculpture (The first sculptors), S:192; (Egyptian) S:196 with picture ing Philip's War Indian wars (King Philip's War), 1:174 Philip, King, P:366 (ing Priam [music by Tippett] Tippett, Sir Michael, T:262 ling snake See Kingsnake (ing Solomon's Mines book by Haggard) Haggard, Sir Henry Rider, H:7 ing vulture Bird picture on, B:331 Vulture (New World vultures), V:430 ing whiting Kingfish, K:256 ing, Billie Jean (American tennis star), K:253 with portrait Tennis (tables), T:147 ing, Captain Phillip Parker iAustralian settler] Queensland (Early settlement), Q:25 ling, Martin Luther, Jr. American social reformerl, K:253 with picture Civil disobedience (Is civil disobedience ever justified?), Ch40 Nobel Prizes (Peace), N:234 with picture Pacifism, P:17 United States, History of the (Poverty and discrimination), U:260 King, Philip Gidley (Australian political leaderl, K:254 with portrait Australia, History of (The New South Wales Corps), A:801 ing, Sir Truby (New Zealand doctor), K:255 (ing, Stephen [American writer], K:255 King, Tom (British politician), K:255 (ing, William Francis Flying Pieman, F:282 Kingdom . . . Kingdoms appear under their key words, as in Sardinia, Kingdom of Kingdom, The Imusic by Elgar) Elgar, Sir Edward William, E:210 ingdom (biology), K:256 Animal, A:376 Classification, Scientific (Groups in classification), Ci:67 Plant, P:540 Kingfish, K:256 with picture Mackerel, M:19 Cingfisher, K:256 Bird picture on, B:327 Kingia Blackboy, B:379

```
Kinglet, K:257 with picture
Kingmaker
  Warwick, Earl of, W:47
  Warwickshire (History), W:50
Kings and queens of Britain and ire
    land, K:258 with pictures
  See also list of Related Articles
King's Bench
  Law picture on, L:114
King's College chapel
  Cambridge University picture on, CA
King's Council
  Curia regis, Ci:501
King's Court
  Curia regis, Ci:501
King's English, The
  Fowler, F:377
King's Lynn and West Norfolk, K:231
King's Men
  Rollright Stones, R:334
King's Men (theatrical group)
  Shakespeare, William, S:302
Kings of Infinite Space (book by Bal-
     chinl
  Balchin, Nigel, B:38
King's Own, The [book by Marryat]
  Marryat, Frederick, M:220
King's reeve
  Reeve, R:178
Kings, Books of [Old Testament], K257
Kingscote
  Kangaroo Island, K:188
Kingsford Smith, Sir Charles [Auts-
     tralian aviatori, K:281 with pictures
  Taylor, Sir Gordon, T:73
Kingsley, Henry (Australian writer)
  Australia, Literature of (The develop-
       ment of the novel), A:830
Kingsley, Charles (British author),
     K:282
Kingsley, Sidney [American dramatist]
     K:283
Kingsnake, K:282
  Milk snake, M:470
Kingston [jamaica], K:283 with picture
  Free port, F:430
  Jamaica, J:17 with map
Kingston upon Huli
   See Huli
Kingston upon Thames [England],
     K:284
Kingston, Maxine Hong | American
  American literature (Fiction and other
       prose), A:320
Kingstown [St. Vincent and the Grena
  Saint Vincent and the Grenadines, $45
       with picture
Kingswood [England], K:284
   See also Avon; Bristol
  Highland Region (Places to visit), High
Kingussie (Scotland)
Kinkajou, K:284 with picture
Kinnock, Neil Gordon British political
     leaderl, K:284 with picture
   Labour Party (History), L4
Kino, Eusebio Francisco (Italian mis
     sionaryl, K:285
```

Kinross-shire

See Tayside Region

Kinsella, Thomas Ilrish poetl, K:285

with picture

Irish literature (Irish literature today),

Kinsey Report, The (book by Kinsey) Kinsey, Alfred Charles, K:285

Kinsey, Alfred Charles [American biol-

ogisti, K:285 Kinshasa (Zaire), K:285 with picture

Zaire, Z:480 with picture

Kinship

Family (sociology), F:19 Pacific Islands (Villages), P:6

Kinyarwanda (language)

Rwanda (People), R:507

Kioto See Kyoto

Kipfer, Paul [Swiss physicist]

Balloon (Manned exploration of the stratosphere), B:64 with picture

Kipling, Rudyard [British author], K:286 with portrait

Limpopo River, L:283

Kipper

Herring (Uses), H:183

Scotland (Food and drink), S:161

Kipps (book by Wells)

Wells, H. G., W:148

Kirchhoff, Gustav R. (German chemist) Astronomy (The development of spectral analysis), A:699

Caesium, C:14

Electric circuit (Circuit mathematics), E:142

Optics (History), 0:480

Rubidium, R:441

Kirchhoff's laws [electricity]

Electric circuit (Circuit mathematics), E:142

Kirchliche Dogmatic (book by Barth) Barth, Karl, B:121

kirchner, Ernst Ludwig (German artist) Expressionism picture on, E:431 Painting (Expressionism), P:80

Kirghtz

See Kyrgyzstan

Kirlbati [Pacific Ocean], K:287 with picture and map

Flag picture on, F:205 Line Islands, L:291

Tarawa, T:43

Kirilenko, Andrei Pavlovich (Russian politician), K:288

Kirltimati Atoli, K:288 with picture Kiribati, K:287

Une Islands, **L:291**

Kirk (religion), K:288

Church of Scotland, C:504

Kirk, Norman Eric (New Zealand political leaderl, K:288

Kirkby

Knowsley, K:310

Kirkcaldy (Scotland), K:289

Kirkcudbrightshire

Dumfries and Galloway Region, **D:344**

Kirkland, Lane (American labour leader], K:289

Kirklees [England], K:289

Kirkpatrick, David Gordon

Dusty, Slim, D:358

Kirkpatrick, John Simpson Simpson and his donkey, \$:431

Kirlian photography, K:289 with pic-

Kirlian, Semyon [Russian scientist] Kirlian photography, K:289

Kirlian, Valentina [Russian scientist]

Kirlian photography, K:289

Kirov Ballet

Ballet (Russian ballet), B:56 Bolshoi Theatre Ballet, B:432 Nureyev, Rudolf, N:351

Russia (Ballet), R:474

Kirov Theatre

Saint Petersburg (Education and cultural life), S:42

Kirov, Sergey Russian political leader Saint Petersburg (History), S:44

Kirstenbosch, K:289

Kishau dam

Dam (table), D:14

Kislev (month)

Calendar (The Hebrew Calendar), C:34

Kiss for Cinderella, A [play by Barrie] Barrie, Sir James Matthew, B:119

Kiss Me, Kate imusic by Porter

Porter, Cole, P:696

Kissinger, Henry Alfred (American statesman], K:289 with portrait International relations picture on,

Nobel Prizes (Peace), N:234 Vietnam War (Victory for North Vietnam), V:384

Kit

Beaver (The young), B:178

Kit-Cat Club, K:290

Kneller, Sir Godfrey, K:297

Kit fox

Fox (Kinds of foxes), F:379

Kitasato, Shibasaburo (japanese bacteriologistl, K:290

Kitchen

Colonial life in America picture on, CE181

Interior decoration picture on, 1:282 Safety (In the kitchen), S:9 with pictures

Sailing picture on, S:23

Kitchen, The [play by Wesker] Wesker, Arnold, W:154

Kitchen garden portulaca Portulaca, P:709

Kitchen midden (archaeology), K:290 Kitchener, Horatio Herbert | British

soldier], K:290

Anglo-Boer Wars (The War), A:370

Kite [bird], K:290 with picture

Kite (toy), K:291 with pictures

Aeroplane (Early experiments and ideas), A:76

Helicopter (Lift), H:139

Kitt Peak National Observatory National Optical Astronomy Obser-

vatories, N:36

National Radio Astronomy Observa-

tory, N:43

Observatory picture on, O:381 Sun (Modern solar study), So:421

Kitten

Cat (The life of a cat), C:250 with pic-

Kittikachorn, Field Marshal Thanom [king of Thailand]

Thailand (After World War II), T:184

Kittinger, Joseph W. Jr.

Balloon (Manned exploration of the stratosphere), B:64; (Sport ballooning today) B:65

Kittiwake, K:293 with picture

Kitty Hawk

Aeroplane (The Wright brothers), A:80 Wright brothers, W:419

Kitty Hawk (ship)

Aircraft carrier (The modern carrier fleet), A:205

Kiyu, Lake

See Lake Kivu

Kiwanis International, K:294

Kiwi, K:294 with picture

Bird (The Australasian realm), B:319; (Smell, taste and touch) B:352

New Zealand (Animal life), N:160

Klwl fruit, K:295 with picture

Kiyomori, Taira [Japanese ruler] Taira, T:9

Kjellen, Rudolf (Swedish scholar) Geopolitics, G:99

Kjølen Mountains

Norway (The land), N:296 Sweden (The land), S:468

Klaipéda (Lithuania), K:295

Klamath Mountains

California (Land), C:38

Oregon, 0:492

Klaproth, Martin (German chemist) Cerlum, C:329

Titanium (Discovery and manufacture), T:265

Uranium, U:272

Zirconium, Z:500

Klaus, Karl (Russian chemist) Ruthenium, R:505

Klee, Paul (Swiss painter), K:295

Painting (Expressionism), P:80; picture on P:82

Klein, Lawrence R. leconometrician Econometrics, E:59

Nobel Prizes (Economics), N:235 Kleist, Heinrich von [German writer].

Nr295 German literature (Romanticism),

G:109 Kiemperer, Otto [German conductor],

K:295 Kleptomania, K:295

Klestil, Thomas (Austrian political leader

Austria (Austria today), A:868

Klimt, Gustav (Austrian artist), K:295 Austria (Painting), A:861

Schiele, Egon, S:124

Kline, Franz [American artist], K:296 Klipspringer

Antelope (Kinds of antelope), A:448

Knighthood, Orders of, K:299 with pic-

See also list of Related Articles

pictures

Knights and knighthood, K:300 with

Reformation (in England), R:182 See also list of Related Articles Klompen Scottish literature (1500-1700), S:176 Feudalism, F:63 with picture Wooden shoe, W:304 Knox, Ronald (British priest), K:310 **Knights Hospitallers** Klondike (Canadal, K:296 with picture Knoxville: Summer of 1915 music by Knights of Saint John, K:303 and map Barberl **Knights of Malta** Klondike Gold Rush [1897] Barber, Samuel, B:106 Knights of Saint John, K:303 Yukon (History), Y:478 with picture Knoxville [U.S.], K:310 Klopstock, Friedrich Gottlieb [German Knights of Saint John, K:303 Koala, K:311 with picture and map Knights of the Round Table Animal picture on, A:387 Arthur, King, A:609 German literature (The Storm and Australia (Language), A:751 Literature (History), L:314 Stress movement), G:108 Australia (Native animals), A:769 with Round Table, R:411 Kloss's gibbon Knights Templars, K:304 Gibbon, G:153 Knitted rugs and carpets Kobe [Japan], K:312 **Klystron** Rugs and carpets (Other methods), Koblenz [Germany], K:312 Radar (Continued progress), R:62 Kobus magnolia Vacuum (Microwave tubes), V:299 R:451 Knitting, K:304 with pictures Magnolia, M:60 Klyuchevskaya (volcano) Kobzar (poems by Shevchenko) Textile, T:171 with picture Russia (The East Siberian Uplands), Knitting machine, K:305 with picture Ukraine (Arts), U:8 R:470 Koch snowflake Knebworth House [England] Leicestershire picture on, L:159 Fractal picture on, F:382 Rugs and carpets (Other methods), Hertfordshire (Places to visit), H:185 Koch, Christopher (Australian writer, R:451 **Knecht Ruprecht** Textile, T:169: (Knitted fabrics) T:171 K:312 Santa Claus (Santalike characters in Australia, Literature of (Modern nov with picture: (The age of modern other countries), S:77 textiles) T:176 els), A:832 Knee [anatomy], K:297 with diagram Koch, Robert [German doctor], K312 Knock Leg, L:154 Anthrax, A:450 Octane number, 0:406 Knee jerk Antibiotic (History), A:458 Petrol (Petrol octane ratings), P:329 Nervous system (How messages are Bacteria (History), B:22 routed), N:83 Tetraethyl lead, T:166 Bacteriology (Studying bacteria), But Reflex action, R:179 Knockout [KO] (History) B:23 Kneecap Boxing, B:495 Biology (Materialistic physiology and Knole House (England) Leg. L:154 the cell theory), B:307 Kneller, Sir Godfrey (German painter). Kent (Places to visit), K:221 Drug (The drug revolution), D:318 Knopf, Alfred A. (American publisher), Ehrlich, Paul, E:130 Knesset K:306 Medicine (The scientific study of dis-Israel (Government), 1:430 with picture Knopwood, Robert [Tasmanian settler], ease), M:316 with picture Knickerbocker Base Ball Club of New Tuberculosis, T:432 Knossos [Minoan civilization], K:306 Baseball (Alexander Cartwright), B:131 See also list of Related Articles Köchel number Mozart, Wolfgang Amadeus (His style Knickerbocker Holiday musical by Greece, Ancient (Beginnings), G:352 M:682 Weill with picture Köchel, Ludwig Knot [bird], K:306 Weill, Kurt, W:141 Mozart, Wolfgang Amadeus (His style) Knickerbocker, Diedrich Knot [unit of speed], K:306 Knot Garden, The [music by Tippett] See Irving, Washington Kocher, Emil Theodor Swiss surgeon Knickerbocker's History of New York Tippett, Sir Michael, T:262 K:312 (book by Irving) **Knot** [fastening] Koch's postulates American literature (Literature of a See Knots, hitches, and splices Bacteriology (Studying bacteria), 8:22 young nation), A:311 Knots, hitches, and splices, K:307 Irving, Washington, I:409 with pictures Kodak camera Eastman, George, E:50 Santa Claus (Santa's appearance), \$:76 Gordian knot, G:257 Photography (The beginnings of mod-Knickerbockers (clothing) Macramé, M:24 with picture ern photography), P:461; picture Austria (Way of life), A:859 **Knotted stitch** on P:463 Knife, K:297 with picture Embroidery (Embroidery stitches), Kodály, Zoltán (Hungarian composet, See also Bowie knife; Dagger; Ma-E:227 with diagram K:313 chete Needlepoint picture on, N:67 Kodlak bear Knifefish Knowledge Animal picture on, A:393 Fish picture on, F:165 Empiricism, E:232 Bear, B:169 Knight [title] Existentialism, E:415 Address, Forms of, A:40 Koel Invention, I:311 Cuckoo, Ci:486 Koenig, Friedrich (German invented Knight of the Burning Pestle, The Philosophy (Epistemology), P:420 Communication (in the early 1800s) (play by Beaumont) Knowsley (England), K:310 Beaumont, Francis, B:175 **Knowsley Hall** [England] Printing (New presses and typecasting Knight, Dame Laura (British artist), Merseyside (Places to visit), M:368 Knox, John |Scottish religious leader|, K:299 with portrait machines), P:787 Koestler, Arthur [Hungarian-born 8/1 Knight, Eric (British author), K:298 K:310 with picture

Edinburgh (Sightseeing in Edinburgh),

E:77; (History) E:78

Presbyterians (History), P:763

Protestantism (The conservative re-

form movements), P:816

ish novelisti, **K:313** Koffka, Kurt [German psychologist

K:313

Koh-l-noor

Diamond (Famous diamonds), D:155; picture on D:153 Gem (Some famous gems), G:73 Kohl, Helmut (German political leader), K:313 with portrait Germany (West Germany), G:138 Köhler, Wolfgang (German psychologist), K:313 Learning (Insight learning), L:138 Kohirabi, K:313 with picture Kojiki (book) lapan (Early days), J:55 Shinto, S:360 Kokanee salmon Salmon (Sockeye salmon), S:53 Kokoda Trail [Papua New Guineal, K:314 with picture and map Australia, History of (Kokoda), A:821 Kokoschka, Oskar (Austrian painter), KSU Austria (Painting), A:861 Painting (People), P:32; picture on P:31 Kol Nidrel (music by Bruch) Bruch, Max, B:596 Kola nut, K:315 with picture Koias, Yakub Belarus (The arts), B:209 Kollnsky

Weasel, W:109 Kollwitz, Käthe (German printmaker), K:315 with picture Kolo idance) Croatia (People), Cl:444

Herzen, Alexander Ivanovich, H:186 Kemarov, Vladimir (Russian astronaut) Space exploration (Voskhod and Gemini: The first multiperson space flights), So:148; (Making ready) So:149

Kominski, David Daniel Kaye, Danny, K:204 Komodo dragon (lizard), K:315 with picture

Kolokol (Russian newspaper)

Lizard (Size of lizards), L:340 Monitor, M:561

Komondor [dog], K:316 with picture Kon-Tiki [book by Heyerdahl] Heyerdahl, Thor, H:189

Kon-Tiki book by Heyerdahl Oslo, **0:510** Raft, R:95 with picture

Kongo (African kingdom), K:316 Africa (Eastern, central, and southern kingdoms), A:150

Congo (History), Cl:281 Nzinga a Nkuwa, N:370

Zaire (Early days), Z:485 Kongo (people) Congo (People), Cl:280

Sculpture (African sculpture), 5:202 with picture

Koninkrijk België Belgium, B:214

Konitz, Lee [American jazz musician] lazz (Cool jazz), J:77

Konkan Strip Maharashtra (Land features), M:66 Konkani (language)

Goa (People and government), G:218 India, Languages of (Modern Indo-European languages), 1:123

Konoye, Prince [Japanese statesman], K:316 Tolo, Hideki, T:276

Konrads, Ilsa [Australian swimmer],

Konrads, Jon [Australian swimmer], K:316

Koobi Fora National Park [Kenya] Lake Turkana, L:30

Kookaburra, K:317 with picture Australia (Native animals), A:768 with map

Bird (Birds of Australia and New Zealand), B:332 with picture Kingfisher, K:257

Kopeck [money], K:317 Kopet-Dag (mountains)

Turkmenistan (Land and climate), T:467

Kopkar Kazakhstan (People), K:204

Koplik's spots [disorder]

Measles (Cause and effects), M:292

Sculpture (Archaic sculpture), S:206 Lonari

See Ouran

Korda, Sir Alexander [Hungarian-born film producer!, K:317 with portrait

Kore 675 Sculpture picture on, S:206 Kore [Greek mythology]

Persephone, P:291

Korea, K:318 with pictures and maps See also list of Related Articles Asia (Way of life in East Asia), A:641 Aviation (Aircraft nationality marks), N-RRT

Flag pictures on, F:205 Han dynasty, H:37 Inchon, 651

Martial arts (Korean martial arts), M:231

Ship (Merchant fleets of the world), S:384

Taegu, T:6 Korean language

Korea (Language), K:323

Language (Language families), L:52 Korean sculpture

Sculpture, S:201 with picture

Korean War, K:330

See also list of Related Articles Communism (World War II), Ci:241 Helicopter (Further Improvements), H:141

Inchon, 1:51

Korea (History), K:328 MacArthur, Douglas, M:4 Navy (Navies during the Cold War),

Nuclear weapon (The Cold War), N:340

Panmunjom, P:130 Seoul (History), S:260 United Nations (UN), U:177 United States, History of the, U:260 War crime, W:35

War (Limited war), W:34

Kornberg, Arthur (American biochem-

Cell (The 1900's), C:304 Korsakoff's syndrome Alcoholism (Effects), A:239

Koryak [people]

Arctic (Americanoids), A:543 Koryo dynasty (Korean history)

Seoul (History), S:260 Košava (wind)

Croatia (Land and climate), Cl:445 Serbia (Land and climate), S:267

Kosciusko National Park (Australia) New South Wales (Visitor's guide),

N:127 with picture Kosciusko, Thaddeus [Polish patriot],

K:331 with portrait

Kosher (food), K:331 Israel (Food and drink), 1:432 Judaism (Dietary laws), J:156

Košice (Czechoslovakia), K:331 Kosinski, Jerzy [American writer]

American literature (Fiction and other prose), A:320

Kosmogonia (work by Penderecki) Penderecki, Krzysztof, P:255

Kosmos (satellite)

Space exploration (Early unmanned explorations), So:142

Kosovo, Battle of [1389] Montenegro (History), M:575

Serbia (History), S:268 Kosovo Serbia, **S:266**; (History) **S:268**

Kossuth, Lajos (Hungarian national herol, K:331 Debrecen, D:62

Hungary (Turkish and Habsburg rule), H:301

Kosygin, Aleksel Nikolaevich (Russian

political leader], K:331 Kota Kinabalu (Borneo), K:332

Kota Tinggi [Malaysia] Johor (Places to visit), J:135

Koumiss

See Kumiss

Kountché, Seynl, [Nigerien military leader) Niger (History), N:205

Kouprey [cattle], K:332 with picture Kouros, Ylannis [Greek athlete], K:332

with picture Koussevitzky, Serge [Russlan-born

conductor), K:333

Kowhai [plant], K:332

Kowloon [Hong Kong], K:333

Hong Kong (Hong Kong City and Kowloon), H:269; picture on H:268

Kr (symbol) Krypton, K:336

Kraepelin, Emil [German psychiatrist] Abnormal psychology (History), A:13 Mental illness (Medical approaches), M:356

Krak des Chevaliers

Castle (Medieval castles), C:237 with

Krone [money], K:335 ment), B:545 picture "Kubla Khan" [poem by Coleridge] Kropotkin, Peter [Russian geographer], Crusades picture on, Ci:463 Coleridge, Samuel Taylor (His writing K:335 Krakatau [island], K:333 Ci:162 Anarchism, A:350 Flood (Seacoast floods), F:229 Kublai Khan (Mongol ruler), K:339 Volcano (table), V:419 with map Kruesi, John Edison, Thomas Alva (The Wizard of Asia (People), A:643 Kraken Wakes, The book by Wynd-Burma (Early days), B:660 Menlo Park), E:79 ham] **Exploration (East-West contact** Kruger, Paulus [South African states-Wyndham, John, W:426 resumes), E:419 man], K:335 Kraków [Poland], K:333 South Africa, History of (Annexation of Genghis Khan (Conquests), G84 Kramer vs. Kramer [film] Japan (Foreign relations), 1:56 black kingdoms), So:82 Film industry (Best picture), F:96 Mongol Empire, M:558 Kruger National Park (South Africal, Hoffman, Dustin, H:240 Polo, Marco (Early life), P:659 K:335 with picture Krasnovarsk dam World, History of the (China), W38 Krupa, Gene [American jazz musician], Dam (table), D:13 Kubrick, Stanley (film director), K340 Kravchuk, Leonid Makarovich [Uk-W-225 Film industry (International films in the ranian presidenti, K:333 Jazz (The 1920's), J:75 Krupp, Friedrich Alfred (German busi-1960's and 1970's), F:106 Krebs cycle [chemical reaction], K:333 Kuching (Malaysia), K:340 Krebs, SirHans Adolf, K:333 nessman Kudarat, Sultan (Filipino leader), K340 Krebs, Arthur [French inventor] Krupp, K:336 Kudu, K:340 Krupp, Friedrich [German business-Airship (History), A:218 Antelope picture on, A:449 Krebs, Sir Hans Adolf (German blomanl Kudzu (plant), K:340 Krupp, K:336 chemistl, K:333 Krupp von Bohien und Halbach, Af-Kuftc Krebs cycle (chemistry), K:334 Islamic art (Calligraphy), I:419 fried (German businessman) Metabolism (Catabolism), M:374 Kuhn, Richard (German chemist), K841 Krupp, K:336 Respiration (Cellular respiration), Nobel Prizes (Chemistry), N:229 Krupp von Bohlen und Halbach, Gus-R:240 Kulper, Gerard Peter (American astav (German businessman) Kreisler, Fritz (Austrian violinist), K:333 tronomerl, K:341 Krupp, K:336 Kremlin, K:333 with picture Kukenaam Krupskaya, Nadezhda Konstan-Moscow (Layout of Moscow), M:624 See Cuquenan Falls tinovna [Russian revolutionary with picture and map Kukui (tree), K:341 leaderl, K:336 Kretschmer, Ernst [German psycholo-Kukukukus (New Guinea), K:341 Lenin, V. I. (Young Revolutionist), L:170 Kula Personality (Personality types), P:299 Kruse, Käthe Papua New Guinea (Way of life), PHE Kreuger, Ivar [Swedish promoter] Doll (The early 1900's), D:247 Kuluri Krylov, Ivan (Russian author) Match (The first safety matches), Salamis, S:48 M:253 Fable, F:2 Krill, K:334 with picture Kumara Russian literature (The classical move-Maori, M:174 Animal(Animals of the polar regions), ment), R:497 New Zealand (Food and drink), N:155 A:392 with picture Krypton lelement, K:336 Kumasi (Ghana) Antarctica (Animal life), A:440 Laser (Gas lasers), L:73 Ashanti, A:620 Arctic Ocean (Ocean life), A:548 Kshatriya Kumbi Saleh (ancient city) Ocean (The phytoplankton), 0:391 Caste, C:233 Ghana Empire, G:148 Hinduism (Social divisions), H:210 Kringle [food] Mauritania (History), M:269 Ku K'ai-chih Denmark (Food and drink), D:111 Kumina (religion) Kris Kringle See Gu Kaizhi West Indies (Religion), W:166 Santa Claus (Santalike characters in Ku Klux Klan, K:336 Kumiss lalcoholic drinkl, K:341 Reconstruction (The black codes), other countries), S:77 Kazakhstan (People), **K:204** Krishna (Hindu god) R:162 Kumkum Bhagavad-Gita, B:265 Terrorism (History of terrorism), T:159 India (Clothing), 1:65 God (Personal Gods), G:225 Texas (History), T:168 Kumquat (fruit), K:341 with picture Kun, Béla Hungarian political leader Hinduism (Divinities), H:209; picture United States, History of the (Recon-Hungary (Between world wars), H36 on H:211 struction), U:251; (Looking back-India picture on, V:38 ward) U:257 Australian Aborigines (Gods and god Mahabharata, M:62 with picture Kuala Kedah [Malaysia] Kunapipi Vishnu, V:409 Kedah (Places to visit), K:209 desses), A:838 Krishna Deva Raya (Indian king), K:334 Kuala Lumpur (city, Maiaysia), K:339 *Kundu* (book by West) Krishna Menon, V. K. [Indian politiwith pictures West, Morris, W:156 cian], K:334 Malaysia, M:83 with picture; picture Kuniun Mountains, K:341 Krishnan, Rajam [Indian writer] on M:86 Kununurra Diversion Dam Selangor, S:241; picture on S:243 India, Literature of (Contemporary Ord River, 0:491 trends), 1:129 Kuala Lumpur (federal territory, **Kuomintang Party** Krkonose Mountains Malaysial, K:336 with pictures and Chiang Kai-shek, C:389 China (The early republic), C:461, Czech Republic (The Sudetes Moun-Kuba [people] tains). Ci:518

Zaire (Early days), Z:485

Brazill

Kubelik, Rafael (conductor), K:339

Kubitschek, Juscelino [president of

Brazil (Return to constitutional govern-

Kroll, William (Luxembourg business-

T:265

Krona (money), K:335

Titanium (Discovery and manufacture),

C:461

So:422

Mao Zedong (His life), M:173 Sun Yet-sen, So:422; (His later effort)

Taiwan (Government), T:10

Sculpture (Archaic sculpture), S:206 Kupala, Yanka Belarus (The arts), B:209

Kupe (Polynesian explorer) Wellington (History), W:147

Kura (river, Azerbaijan) Azerbaijan (Land and climate), A:897

Kura Valley

Georgia (Land and climate), G:102 Kurds, K:341 with map

Armenia (History), A:580

Iraq (The mountains), 1:344; (The republic) 1:347; (Recent developments) 1:348 with picture Perslan Gulf War (Aftermath), P:298

Turkey (Population and ancestry),

Kurenti festival

Slovenia (People), S:493

Kuril Islands, K:342 lapan (Postwar boom), J:60

Kuril trench (oceanography) Pacific Ocean (The ocean floor), P:14

Kurosawa, Akira (film director), K:342 Film industry (Postwar realism), F:104

Kuroshio Current

Japan Current, 1:61 with map Pacific Ocean (Currents and tides),

Kush [kingdom], K:342 with map Africa (Early civilizations). A:148 Nubla, N:317

Sudan (Early days), So:384 Kushan Empire, K:343

India, History of (The Kushanas), 1:105 Kanishka, K:189

Kushans (people)

Afghanistan (Early invasions), A:114 Kutta, K. W. [German mathematician]

Aerodynamics (Lift), A:71 Kıvasz (dog), K:343 with picture

Kuwait (city), K:346

kiswait (country), K:343 with pictures and maps Aviation (Aircraft nationality marks),

A:881

Flag picture on, F:205\$/pg\$ Hussein, Saddam, H:390

Middle East (Recent developments), M:457

Kuzari (work by Halevi) Hebrew language and literature (Medieval works), H:129 Kvass (drink)

Russia (Food and drink), R:471

Kwajalein (islands), K:346 kwanzaa [holiday], K:346

Kwashlorkor idiseasel, K:346

Nutrition (Protein-energy malnutrition), N:368

Kwazulu |South African homeland Buthelezi, Mangosuthu Gatsha, B:677 kwazulu-Natal, K:347

Zulu, Z:509

kwazulu-Natal [South African province],

South Africa, So:55 Kyang [animal]

lammy and Kashmir (Plants and animals), 1:26

Kyanite [mineral], K:347

Kyd, Thomas |English dramatist|, K:348 Drama (Elizabethan playwrights), D:291

Kyle and Carrick [Scotland], K:348 Strathclyde Region,, So:345

Kvm river

Cambridgeshire (The land), C:50

Kymograph [instrument], K:348 Kyoto [Japan], K:348 with picture

Kyphosis

Hunchback, H:372

Kyrgyz [people]

Kyrgyzstan (People), K:348

Kyrgyzstan, K:348 with picture and Commonwealth of Independent

States, Cl:222 Flag picture on, F:205

Kyushu (island)

Japan, J:48

Kyzyl Kum (desert), K:350 Uzbekistan (Land and climate), U:293



Titles beginning L'appear under their key words

L [letter], L:1 with pictures

L-dopa

Brain (Parkinson's disease), B:518 Parkinson's disease, P:189

La Araucana (poem by Ersilla y Zúñiga) Latin-American literature (Colonial literature), L:95

La Belle Hélène (operetta by Offenbach) Offenbach, Jacques, 0:415

La Belle Paree [musical]

Jolson, Al, J:138

La [symbol]

Lanthanum, L:57

La Brea pits [Los Angeles], L:6 La Bruyère, Jean de French authorl,

French literature (Classical prose),

F:447

La Ceiba (Honduras), L:9

La Chinoise [film]

Godard, Jean-Luc, G:225

La Farge, John (American painter), L:13 with picture

Stained glass (Decline and revival), So:265

La Farge, Oliver (American author), L:13

La Fayette, Madame de French authorl, L:13

French literature (Classical prose), F:447

La Fontaine, Jean de (French poet), L:14

Fable, F:3 French literature (Classical poetry), F:447

La France [airship]

Airship (History), A:218 La Gioconda (painting by Leonardo da

Vincil Leonardo da Vinci (Paintings), L:180

La Grande-Duchesse de Gérolstein

(operetta by Offenbach) Offenbach, Jacques, 0:415

La Guardia Airport

New York City (Queens), N:146

La Guardia, Florello Henry (American political leaderl, L:16 with portrait

La Leche League International, L:32 La Paz [Bolivia], L:61

Bolivia picture on, B:426

Latin America picture on, L:81

La Pellegrina

Gem (Some famous gems), G:73 La Périchole loperetta by Offenbachl

Offenbach, Jacques, 0:415

La Pérouse, Jean François [French navigator], L:61

La Plata dolphin

River dolphin, R:292

La Plata, Rio de See Rio de la Plata

La Rochefoucauld, Duc de [French writerl, L:66

La Rochelle [France], L:66 La Salle, jean Baptiste de

See Jean Baptiste de la Salle, Saint

La Salle, Sleur de French exploreri, L:68 with portrait

Exploration (table), E:424 with map Hennepin, Louis, H:151

La Serva Padrona (work by Pergolesi) Pergolesi, Giovanni Battista, P:281

La Soufrière (volcano) West Indies (Land), W:169

La Tène style

Celts, C:311

La Trobe Valley (Australia), L:101 with picture

La Trobe, Charles Joseph [Australian statesmanl, L:100

La Vérendrye, Sieur de (French-Canadian explorerl, L:108 Exploration (table), E:424

La Vie Parisienne loperetta by Offenhachl

Offenbach, Jacques, 0:415

Labanotation

Sailet (Recording choreography), B:52 with pictures

Labelling

Bar coding, B:100

Labellum [botany] Lady's-slipper, L:12

Orchid (Parts of orchids), O:489

Lablum

Insect (Mouthparts), 1:248

Labor Party

Australian Labor Party, A:846

Laboratory, L:2

Disease picture on, D:197

Hospital (Professional services departments), H:315

Invention (Research laboratories), 1:313

with picture Police laboratory, P:644 with pictures Safety (In other school areas), S:12

Laboratory glassware Glass (Kinds of glass), G:190 Laboulave, Édouard-René Lefebvre

de [French politician] Statue of Liberty (History), So:305

Labour [childbirth]

Baby (Birth), B:4 with picture Childbirth, C:411

Reproduction, Human (Birth), R:229 Labour (industry) Industry, 1:221

International Labour Organization (ILO), I:291

Labour force, L:2 Technology (Reduced labour), T:84;

(Easier labour) T:85

Labour Day, L:2

Labour force, L:2 Economics (Making the economy

grow), E:61 Labour-intensive industry

Industry (Labour), 1:221

Labour legislation See Child labour; Strike

Labour-management relations

See Industrial relations Labour movement

Australia, History of, A:812 Ireland, History of, 1:376 Labour pain

Reproduction, Human (The stages of labour), R:230 Labour Party, L:3 See also list of Related Articles

Australia, History of (The labour parties), A:813; (Labor splits) A:820

Hardy, Kelr, H:58 New Zealand, History of (The depresston), N:174 Smith, John, S:499

Labour Party of Ireland Labour Party, L:4 Labour relations

Industrial relations, 1:219 Personnel management, P:301

Labour union Trade Unions, T:328

Labour, Division of See Mass production; Trade (Trade and specialization)

Labrador [Canada], L:4 with pictures and map

Labrador Current (Arctic Ocean), L:5 with map Arctic Ocean (Currents), A:548

Atlantic Ocean (Currents), A:719

Ocean (Currents), 0:394 Labrador retriever, L:6 Dog picture on, D:226

Feldspar, F:49 Labrum

Labrador tea, L:6

Labradorite [mineral]

Insect (Mouth parts), 1:248 Labuan, L:6 Free port, F:430

Laburnum, L& Labyrinth [anatomy]

Ear (The inner ear), E:8 Labyrinth [Greek mythology], L:6 with picture

Daedalus, D:3 Minos, M:501 Minotaur, M:502 Labyrinthine organ

Ear (The semicircular canals), E:8 Lac (animal substance), L:7

Insect (Beneficial insects), 1:246 Lacquer, L.9 with picture

Resin, R:238 Lac Tchad See Lake Chad

Laccadive Islands (India), L:7 Lace (fabric), L:7 with picture Belgium (Manufacturing), B:220; pic-

ture on B:217 Crocheting, Cl:446 with pictures

Paraguay (Arts), P:164; picture on Textile (Nets and laces), T:172 Lace glass

Glass (Types of art glass), G:198 Lace monitor

Goanna (reptile), G:221 with picture Lacedaemon Sparta, So:201

Laceration Bruise, **B:598** Lacewing, L.9 with picture

Insect picture on, 1:243 Larva picture on, L:67 Lachesis Fates, F:35

Lachlan [river, Australia], L:9 Oxley, John, 0:536 **Lachlan River Irrigation System** New South Wales (Economy), N:132

Lachmaniati (poem) Madhya Pradesh (People), M:28 Lachmann, Hedwig [German librettist]

Wiltshire (Places to visit), W:265 Lacquer, L:9 with picture Lacquerware, L:10 with picture

Opera (Salome), 0:473

Lacock Abbey (England)

Lacquer [recording] Record player (Transferring the recording to a disc), R:164

Lacquerware, L:10 with picture Lacrimal bone [anatomy] Face, F:3

Tears picture on, T:80 Lacrimal gland Eye (Parts of the eye), E:435

Lacrimal duct

Gland (Exocrine glands), G:183 Tears, T:80 with picture Lacrimal sac

Eye (The outer parts), E:435 with pic-Tears picture on, T:80

Lacrosse [sport], L:10 with pictures Indian, American (Recreation), 1:139 Lactation, L:11

Breast, B:550

Lacteal (lymph vessel) [anatomy] Intestine (The small intestine), 1298

Lymphatic system (Absorption of fats) Lactic acid, L:11

Yoghurt, Y:454 Lactobacillus bulgaricus Yoghurt, Y:454 Lactometer

Hydrometer, H:407 Lactose (sugar) Carbohydrate (Simple carbohydrates).

C:187: (How the body uses carbohydrates) C:187 Goat (Products), G:221 Lactic acid, L:11

Milk (Carbohydrates), M:466 Nutrition (Carbohydrates), N:363

Sugar (Kinds of sugar), So:390; (Milk) Ladies Professional Golf Association Golf (Tournaments), G:249; (Women's golf) G:251

Ladinos (people) Guatemala, G:398; (People) G:397 Lady [title], L:12 Duke, D:341 Knighthood, Orders of (Honorary or

ders), K:299 Middle Ages (Life of the people), M:449 Nobility (Privileges of the peerage),

N:236 Lady Amherst's pheasant Bird picture on, B:324 Lady and the Unicorn, The tapesty Tapestry (History), T:40

Lady Day, L:12 Quarter days, Q:8 Lady fern Fern picture on, F:57 Lady from Shanghal, The film

Welles, Orson, W:145 **Lady Godiva** See Godiva, Lady Lady in the Dark [play] Kave, Danny, K:204

Lady in waiting [title] Lady, L:12 Lady Jean [painting by Bellows]

Bellows, George Wesley picture on Lady Molly of Scotland Yard book by Orczyl Orczy, Baroness, 0:491

Lady of Lyons, The [book by Bulwer Bulwer-Lytton, Edward George Earle Lytton, **B:643**

Lady of the Camellias, The book by Dumas, Alexandre, fils, D:344

Opera (Traviata, La), 0:473 with plc Lady of the Lake, The book by Scott

Lancelot, Sir, L:42 Scott, Sir Walter (His life), S:175 Lady of the Lake, The lopera by Ros

sinil

French literature (Early French litera-Rossini, Gioacchino Antonio, R:404 ture), F:445 Lady Penrhyn [ship] Laika Idogl First Fleet. F:148 lady Sings the Blues [book by Holiday] Space exploration (The space race begins), So:141 Hollday, Billie, H:245 Lated ititle, L:16 Ludy Windermere's Fan (play by Laissez faire [economics], L:16 Wildel Capitalism (The development of capi-Wilde, Oscar. W:249 Lady with Carnations, The [book by talism), C:146 Economics (Capitalism), E:61; (Early be-Cronin ginnings) E:64; table on E:65 Cronin, A. J., Cl:452 Keynes, John Maynard, K:240 Ladybird, L:12 with picture Beetle, B:200 Laity Protestantism (The importance of the Insect (Biological control), 1:247 with picture; (Hibernation and migralaity), P:816 Religion (How the major religions are tion) 1:258 with picture organized), R:200 Lady's fingers Roman Catholic Church (The role of Okra. 0:425 with picture the laity), R:337 Lady's Not for Burning, The lplay by Lake [dye], L:16 Mordant, M:604 Fry. Christopher, F:477 Lake Igeographyl, L:17 with pictures ladys-slipper, L:12 with picture See also list of Related Articles Orchid (Kinds of orchids), O:489 Dam (What does a dam do?), D:12 Lae Papua New Guineal, L-12 Ice Age (Effects of the ice sheets), 1:7 Laënnec, René Théophile Hyacinthe Weather (Geographical features), [French doctor], L:12

Lastrile (drug), L:12 Lafayette, Marquis de (French soldier and statesman), L:13 Laffite, Jean [American pirate], L:14 Laffite, Pierre (brother of) Laffite, Jean, L:14 L'Africaine [opera by Meyerbeer] Meyerbeer, Glacomo, M:431 Lag ba'omer (jewish festival), L:15

Lagan Flotsam, jetsam, and lagan, F:236 Lagan Iriver, Northern Ireland), L:15 LAGEOS [satellite]

Satellite, Artificial (Important satellites), 5:96 Lager beer

Alcoholic beverage (Beer), A:237 Beer, B:193

lagerkvist, Pär Fabian (Swedish novel-Istl. L:15 Nobel Prizes (Literature), N:232 Sweden (Literature), So:467

Lageriöf, Selma (Swedish writer), L:15 with portrait

Sweden (Literature), So:467 Ligoon igeographyl, L:15

Island (Coral islands), I:423 with diagram

lagos (Nigeria), L:15 with picture Abuja, A:17

Nigeria, N:206 with picture Lagrange, Joseph Louis (French mathematician), L:16

Mathematics (Developments in the 1700's), M:260 Number theory, N:343

Lagting igovernment Faroe Islands, F:28

Norway (National government), N:292 Lahore [Pakistan], L:16 Pakistan (The coming of Islam), P:98

Punjab, P:858 Lal (poem)

W:115

World (Water), W:325

Lake, Simon [American inventor] Submarine (Early submarines), So:371

Lake Agassiz (former lake), L:20 Lake Albano [Italy], L:20

Lake Albert [Africa], L:20 Baker, Sir Samuel, B:33

Lake Argyle [Australia]

Western Australia picture on, W:182 Lake Balkal, L:20 with map

Lake (table), L:19

Russia (Rivers and lakes), R:478 with picture

Siberia (The land and climate), S:406 with map

Lake Bala [North Wales], L:20 Lake Balaton [Hungary]

Hungary (Land and climate), H:377 with picture

Lake Baikhash [Kazakhstan], L:20 Kazakhstan (Land and climate), K:205

Lake Bangweulu (Zambia), 1:20 Lake Baykal

See Lake Baikal

Lake Buriey Griffin (Australia), L:21 with picture

Lake Chad [Africa], L:21 Lake Como [Italy], L:21 with map

Lake Constance (Europe), L:21 Switzerland (The Swiss Plateau). So:496 with map

Lake District, L:21 with map

Cumbria, Cl:495 with picture England (Surface features), E:270 with picture; (Rivers and lakes) E:271

United Kingdom (The Pennines), U:55 Lake District National Park (England)

Cumbria (Places to visit), Cl:496 Lake dwelling [archaeology], L:22 Lake Edward [Africa], L:22

Lake Erie [Canada/U.S.], L:22 with map Great Lakes, G:321 with maps

Lake Eucumbene [Australia], L:23

Lake Eyre [Australia], L:23 with picture Australia (The Central Lowlands),

A:763

Lake Garda [italy], L:23 Lake Gatun

Panama Canal, P:122

Lake Geneva [France/Switzerland], L:23 with map

Rhône River, R:258 with map Switzerland (The Swiss Plateau), So:496 with map

Lake George (Australia), L:24 with picture

Lake Hindmarsh (Australia), L:24

Lake Huron [Canada/U.S.], L:24 Great Lakes, G:321 with maps Lake (table), L:19

Lake Ilmen [Russia], L:25 Lake Kivu (Rwanda/Zaire) Lake Tanganyika, L:29 with map

Rwanda (Land), R:507 with map Lake Ladoga (Russia), L:25

Lake Onega, O:27 Lake Lugano (Italy/Switzerland), L:25

Lake Macquarte [Australia], L:25 Lake Maggiore [Italy], L:25

Lake Malawi

Malawi, M:79; picture on M:80

Lake Manapourt New Zealand), L:25 Lake Maracalbo [Venezuela], L:25 with

mao Venezuela (The Maracaibo Basin),

V:331 with map Lake Michigan (U.S.), L:25 with map

Great Lakes, G:321 with maps Lake (table), L:19

Lake Nasser (Egypt), L:26 with map Aswan High Dam, A:702 Egypt (Nile Valley and Delta), E:110

Lake Neagh

See Lough Neagh Lake Nemi [Italy], L:26

Lake Ngami [Botswana]

Stanley and Livingstone (Livingstone's discoveries), So:277

Lake Nicaragua (Nicaragua), L:26 Lake Nvasa [Africa], L:27 with map

Lake (table), L:19 Malawi, M:79; picture on M:80

Stanley and Livingstone (Livingstone's discoveries), So:277 with map

Lake of Lucerne [Switzerland], L:27 Lake of Thun [Switzerland], L:27

Lake Onega (Russia), L:27

Lake Ontario (North America), L:27 with

Great Lakes, G:321 with maps

Lake (Climate), L:18

Lake Pedder [Australia], L:28 with picture

Lake Peipus [Estonia], L:28

Estonia (Land and climate), E:332 with map Lake Poets [English literature], L:28

Lake Rudolf See Lake Turkana

Lake Saint Clair (Australia), L:28 Lake Sevan

Zoology (History), **Z:506**

writer], L:33

Lamartine, Alphonse de French

French literature (Romantic poetry),

Carbon (Forms of carbon), C:188 Armenia (People), A:579; (Land and cli-F:448 Soor, So:44 Lamasery mate) A:580 Lampedusa, Giuseppe Tomasi di 📶 Tibet (Religion and culture), T:237 Lake Superior [Canada/U.S.J, L:28 with ian authorl, L:38 Lamb [animal] Lampman, Archibald [Canadian poet Easter (Easter symbols), E44 Great Lakes, G:321 with maps L:38 Lamb [food], L:33 Lake (table), L:19 Lamprey, L:38 with picture Meat, M:297 Lake Tana [Ethiopia], L:29 Fish, F:156 with picture Lake Tanganyika [Africa], L:29 with Mutton, M:747 "Lamb, The" [poem by Blake] Lampworking Glass (How glass is shaped and fin-Blake, William, B:383 Lake (table), L:19 ished), G:193; picture on G:195 Lamb, Charles (English author), L:33 Lake Taupo [New Zealand], L:29 Lan-chou with portrait New Zealand (Lakes, rivers, and water-See Lanzhou Essay (Personal essays), E:330 falls), N:159 Lanai (island) February (Quotations), F:43 Lake Te Anau New Zealandl, L:30 Lamb, Mary Ann [British author], L:34 Hawaii (Land), H:80 Lake Tiberias Lamb, William Lanark See Galilee, Sea of See Clydesdale Melbourne, Viscount, M:336 Lake Titicaca [Peru/Bolivia] Lanarkshire Lambaréné with map, L:30 See Strathclyde Region Gabon, G:2 with picture and map Lake picture on, L:17 Lancashire [England], L:39 with picture Lambay Island [frefand], L:34 Lake Torrens (Australia), L:30 See also list of Related Articles Lambert, Constant English composerl, Lake Trasimeno, Battle of Arms picture on, A:586 Hannibai (His military campaigns), Lancaster (English history), LAZ Lambert, George Washington (Aus-H:55 Edward IV, E:94 tralian artist]. L:34 Lake trout England (The Wars of the Roses), Lambeth [London], L:34 Trout (Kinds of trout), T:419; picture on Lambeth Conferences (religion) Henry IV, H:152 Anglicans (Organization), A:368 Lake Turkana [Africa], L:30 Plantagenet, P:573 Lambeth Palace, L:34 Lake Victoria [Africa], L:30 Wars of the Roses, W:41 Lamb's quarters (plant), L:34 Lake (table), L:19 York, Y:456 Lamb's tongue (plant) Nile, River (The course of the Nile), Lancaster, Duchy of, L42 Woundwort, W:412 N:218 with map Lancaster, Duke of Lamb's wool Lake Volta [Ghana], L:31 with map See John of Gaunt Wool (Types of wool), W:310 Ghana (Land), G:147 Lancaster, Joseph (English educator), Lamburn, Richmal Crompton Lake Windermere See Crompton, Richmal See Windermere Lancaster, Sir Osbert (British artist and Lament for the Makaris, The lpoem Lake Xochimilco [Mexico City], L:31 authorl, L:42 Lakeland terrier, L:31 with picture by Dunbarl Lancaster (city), L:42 Laker, Sir Freddie (British business-Dunbar, William, D:348 Lance [fireworks] Fireworks (How fireworks work), RIM Lamentations (Old Testament), L:35 Lakes of Killarney [Ireland], L:32 Tishah be-av, T:263 Lance (weapon) Lakhwar Dam Lamina See Spear Leaf (The parts of a leaf), L:128 with Dam (Some important dams), D:14 Lancelet picture Lakshadweep, L:32 See Amphioxus Lancelot, Sir (legendary figure), 1983 Lakshml Laminar flow [aerodynamics] Hinduism (Divinities), H:209; picture Aerodynamics (Friction drag), A:72 with picture on H:211 Laminated safety glass Arthur, King, A:609 Lalibela Glass (Kinds of glass), G:190 Galahad, Sir, **G:9** See Roha Laminating, L:35 Round Table (The Knights of the Round Table), R:411; (The decline Lalo, Édouard (French composer), L:32 Bamboo (How bamboo is used), B:71 Lalor, Peter [gold miners' leader], L:32 Plastics, P:582 of the Round Tablel R:411 with portrait Laminitis (animal disease) Lancewood, L:43 Lama Ititle], L:33 Horse (Medical care), H:299 Land Earth (The earth's surface), E19 Asia (Way of life in Central Asia), A:643 Limmas Bhutan (People), B:268 Quarter days, Q:8 See also Soil Lamaism, L:33 Lammergeier, L:35 with picture Land, The (play by Colum) Tibet (Religion and culture), T:237 Lamming, George (Eric) (Barbadian Colum, Padraic, Cl:203 Lamaism, L:33 novelist), L:35 Land Act [Irish history] Ireland, History of (Home Rule and the Asia (Religion), A:643 LaMoore, Louis Dearborn Mongolia (People), M:560 See L'Amour, Louis Land League), 1:375 Land Act |South African history Tibet (Religion and culture), T:237 L'Amour, Louis [American author], L:36 South Africa, History of (Apartheid) Lamarck, Chevalier de French biolo-Lamp, L:36 with pictures gistl, L:33 Electric light, E:149 with diagram South Africa (Rural areas), So:59 Evolution, E:406; (Early theories) E:412 Lighting (Lighting problems), L:270; Heredity (Early ideas about heredity), (Lighting devices) L:270 Sculpture (Environmental sculpture)

Safety lamp, S:16 with picture

kingdom), A:414

Animal (A classification of the animal

Lamp shell

Lampblack

Land art

Land disposal

S:218 with pictures

Waste disposal (Methods of waste dis

posal), W:65 Land League Davitt, Michael, D:50 freland, History of (Home Rule and the Land League), I:375 Pamell, Charles Stewart, P:198 Land March (Maori demonstration) New Zealand (New Zealand since 1972), N:175 Land mine Mine warfare (Detecting land mines), MEANIZ Land of Enchantment New Mexico, N:118 land of Frost and Fire Iceland, I:20 Land of Smiles, The operetta by Leharl Lehár, Franz, L:157 land of the Midnight Sun Finland, F:113; (Climate) F:119 Norway, N:291; (Climate) N:2970298 Sweden, So:460 Land planning Landscape architecture, L:45 Land registration Conveyancing, Ci:319 Land rights Australian Aborigines, A:842 Land survey Surveying (Types of surveys), So:445 und transportation Transportation, T:347 with pictures Land use Brazil map on, B:542 Map picture on, M:184 Town planning, T:315 with picture United States map on, U:216 Land use management Landscape architecture, L:45 tori, L:43 Landfilling Hazardous wastes (Disposal of hazardous wastes), H:92 Waste disposal (Land disposal), W:65

land, Edwin Herbert (American inven-

Landing craft Amphibious ship, A:342

Warship (Amphiblous warfare ships), W:43 Lunding gear

Aeropiane, A:93 Landing ship—tank

Warship picture on, W:45; (Warships in the two world wars) W:46 Landlord

See also Lease Tenant; T:139

landor, Walter Savage (English poet), L:43

landowska, Wanda Polish musiciani, L:43

land's End (England), L:44 with picture England (Surface features), E:270 (andsat [satellite]

Satellite, Artificial (Important satellites), S:96

landsborough, William (Australian explorer), L:44 Landscape architecture, L:44 with pic-

See also list of Related Articles Flower (in landscaping), F:242 Gardening, G:34

House (Landscaping), H:325

Road (Roadside improvement), R:297 Tree (Planting and caring for trees),

T:389

Landscape painting

China (Painting), C:446 with picture Church, Frederick Edwin, C:500 with picture

Japanese print (The master print artists). I:65 with picture

Painting (Chinese painting), P:49 with picture

Painting (Japanese painting), P:50 with picture

Painting (Landscapes and seascapes), P:35

Painting (Romanticism), P:68 Turner, J. M. W., T:470; picture on

T:470

Landscaping

See Gardening; Landscape architec-

Landseer, Sir Edwin (British artist), L:45 with picture and portrait

Landslide, L:46 with picture Earth (Mass movement), E:23 with pic-

ture Landsteiner, Karl (Austrian-born immu-

nologisti, L:46 Blood (History of blood research),

R-400

Blood transfusion, B:402 Medicine (The medical revolution), M:317 Rh factor, R:249

Landy, John (Australian runner), L:46 Lane, Sir Ailen (British publisher), L:46 Lane, Sir Hugh lirish art collector), L:46 Lane, William (Australian socialist), L:46 Paraguayan settlements, P:167

Lanfranc (English religious leader), L:46 Lang, John (Australian writer) Australia, Literature of (The develop-

ment of the novel), A:830 Lang, Andrew (Scottish author), L:47 Lang, Cosmo Gordon (British religious

leaderl, L:47 with portrait Lang, Eddle [American jazz musician]

Jazz (The 1920's), J:75 Lang, Fritz (American film director),

Film industry (The movies talk), F:101

Lang, Jack |Australian political leader| Australia, History of (Combating the depression (1930-1933)), A:820

Lang, John Dunmore (Australian settler], L:47 with picture Queensland (Early settlement), Q:25

Lang, John Thomas Australian statesmanl, L:47 with portrait New South Wales (History), N:135

Langbaurgh-on-Tees [England], L:48 Lange, Carl G. [Danish physiologist] Emotion (Early theories about emotion), E:230

Lange, David Russell [New Zealand political leaderl, L:48 with portrait

New Zealand, History of (New Zealand since 1972), N:175 Palmer, Geoffrey, P:108

Lange, Dorothea (American photographerl, L:48 with picture

Photography (The photographic revolution), P:463 with picture

Langen, Eugen [German inventor] Petrol engine (Development of the petrol engine), P:334

Langenhoven, Cornells Jacob (South African lawyerl, L:48

Langhorne, Nancy See Astor, Lady

Langites (people)

Australia, History of (Labour splits),

I.angkawi Islands [Malaysia] Kedah (Places to visit), K:209 Malaysia picture on, M:84

Langland, William (English poet), L:49 England (The Hundred Years' War),

Langlet, Nils (Swedish chemist) Helium, H:138

Langley (ship)

Aircraft carrier (History), A:206 Langley, Samuel Plerpont (American

engineerl, L:49 Aerodynamics (History), A:73 Aeroplane (Powered flight), A:77

Bell, Alexander Graham (His later life), B:229

Bolometer, B:432

Langton, Stephen Cardinal English religious leader), L:49

Langtry, Lillie [British actress], L:49 Bean, Judge Roy, B:167

Language, L:49 with pictures Autism (Abnormal language), A:869

Brain (In the use of language), B:515 with diagrams Culture (Using symbols), Cl:491; (Con-

tact with other cultures) Ci:493 Europe, E:366 with map

Human being (Cultural characteristics), 14:347

Number (Foreign plurals), N:343 Philosophy (The philosophy of language), P:422; (Medieval philosophyl P:424

Rhythm, R:259 Richards, I. A., R:268 Wittgenstein, Ludwig, W:283 World, W:324

Language-experience method

Reading, R:153 with picture Language laboratory Language picture on, L:51

Langue d'oc and langue d'o'll (French [anguage]

French language (Old French), F:445 Troubadour, T:419 Trouvère, T:420

Langur [animal], L:55 with picture Monkey picture on, M:565 Lanier, Nicholas [English musician]

Birth control (Methods of birth con-

troi), B:367

Laparoscopy (surgery), L:61

Lapidary, L:61 with picture Master of the queen's music, M:248 Diamond (How diamonds are cut to Lanier, Sidney (American poet), L:55 make jewels), D:154 with picture Lankester, Sir Edwin Ray (British zool-Gem (Cutting and polishing), G:71 ogist), L:55 Lapis lazuli (stone), L:62 Laënnec, René Théophile Hyacinthe Gem picture on, G:72 [French doctor], L:12 Jammu and Kashmir (Mining), J:25 Stethoscope, So:320 Ultramarine, U:17 Lanney, William [Aboriginal tribesman], Lapiace, Marquis de (French astrono-1:56 with portrait Lark bunting mer], L:62 Lanolin, L:56 Astronomy (Explaining the origin of Wax (Animal wax), W:106 the solar system), A:698 Lansbury, George British political Earth (The birth of the solar system), leader], L:56 with portrait Lansdowne, Marquess of British colo-Nebular hypothesis, N:65 nial administrator!, L:56 with portrait Solar system (Monistic theories), So:27 Lanston, Tolbert [American inventor] Lapland (northern Europel, L:62 with Monotype (History), M:570 pictures and map Printing (New presses and typecasting E:241 Reindeer, R:190 machines), P:787 Lapps (people) Type (History), T:484 Arctic picture on, A:543 Lantern, L:56 Clothing picture on, Ci:92 Lantern Bearers, The book by Sutcliff Europe picture on, E:377 Sutcliff, Rosemary, So:450 Finland (People), F:116 Lanternfish [fish], L:56 with picture Lapland, L:62; (The people and their Lanthanide work) L:63 with pictures Element, Chemical (Periodic table of Reindeer, R:190 the elements), E:196 Sweden (People), So:463 Rare earth, R:139 Bot fly, B:478 L'Après-midi d'un faune poem by Mal-Lanthanum, L:57 larmél Element, Chemical (table), E:198 Mallarmé, Stéphane, M:118 Lanvon (Australia) Lapwing, L:64 with picture Canberra (Places to visit), C:116 Bird picture on, B:323 Lanzhou [China], L:57 Lara, Brian (West Indian cricketer), L:64 Lao People's Democratic Republic with picture See Laos Larache (Morocco), L:64 Lao Tzu Larch, L:64 with picture See Laozi 1:254 Tree (Needleleaf (or coniferous) trees), Lao-tzu [book] T:374; pictures on T:386 Taoism (Taoism as a philosophy), T:37 Lard [fat], L:65 Laocoon (Greek mythology), L:57 with Lardner, Ring [American writer], L:65 Lares and penates [Roman mythology], Troy (The legendary Troy), T:421 Laocoön (sculpture) S:48 Vesta, V:351 Hellenistic Age, H:144 Tadpole, T:5 Large chestnut beetle Vatican City (Vatican Museums), V:316 Beetle picture on, B:199 Laois [ireland], L:57 with pictures Arms picture on, A:587 Large electron-positron synchrotron L:67 Laokoön (work by Lessing) CERN, C:329 Lessing, Gotthold Ephraim, L:187 Large Glass [painting by Duchamp] Laos (Southeast Asia), L:59 with pictures Duchamp, Marcel, D:336 Large ground finch and map Bird picture on, B:335 Asia (Way of life in Southeast Asia), Large Hadron Collider (LHC) Particle accelerator (History), P:206 Flag picture on, F:203 France (The Fourth Republic), F:416 Large intestine Colon (intestine), Ci:175 Geneva Accords, G:82 Frog diagram on, F:465 Indochina, k180 with map Vientiane, V:373 Human body, H:355 Vietnam War (Results of the war), Intestine, 1:298 Large Magellanic Cloud (astronomy) V:384 Laozi (Chinese philosopherl, L:61 Magellanic Clouds, M:44 Supernova, So:428 Laparoscope [surgical instrument] Large Skipper Laparoscopy, L:61 Lascaux Cave Butterfly picture on, 8:682 Test tube baby (Techniques), T:161 Largemouth bass with diagram Bass (Freshwater bass), B:141 with pic-Laparoscopic sterilization

Fish picture on, F:166

Largo

Music (table), M:727 Cowboy (His rope), Ct:406 with pic-Lark, L:65 with picture Bird picture on, B:329 Lark, The play by Fryl Fry, Christopher, F:477 Karloff, Boris, K:195 Bunting, B:646 Larkin, James (Irish trade unionist) 156 Larkin, Philip [British poet], 1:66 Larkspur, L:66 with picture Flower picture on, F:245 Larne [Northern Ireland], L:66 Larousse, Pierre [French teacher] Encyclopedia (Today's encyclopedias), Larsh, Almon E. [American scientist] Lawrencium, L:121 Larva, L:66 with pictures Animal (Sexual reproduction), A:404 Ant lion, A:435 with picture Ant (Reproduction), A:430 with picture Bee (Life of the honey bee), B:186 with Beetle (The life cycle of beetle), 9:197 Butterfly, B:688 with picture Cocpon, Cl:144 Crustacean (Growth and development), Ci:466 Eel (Life cycle), E:95 Fish (How fish live), F:172 Fly. F:279 with picture Insect (Growth and development), Metamorphosis, M:378 Mosquito, M:635 Moth, M:641; picture on M:640 Roundworm, R:412 Salamander (The life of a salamander) Tapeworm, T:40 Larwood, Harold [English cricketer] Laryngitis, L:67 Voice (Straining the voice), VAII Laryngotracheitis Poultry (Raising poultry), P:727 Larynx, L:67 with diagram Human body (The air passages), H355 Pharynx, P:359 with picture Respiration (External respiration), Sound (The human voice), So:46 Throat, T:230 Trachea, T:323 Las Vegas (U.S.A.), L:75 Nevada, N:105 Cave (table), C:284 Horse picture on, H:303 Painting picture on, P:31 Prehistoric people picture on P. 181 Lascelles, George | Earl of Harewood

Royal Family of the United Kingdom (The outer circle), R:425 Ladun, Sir Denys (British architect).

L:68 Laser, L:69 with pictures

Ammunition (Self-propelled ammunition), A:336

Blomedical engineering (Areas of biomedical engineering), B:312

Birthmark, B:369

Bomb (Guided bomb), B:435

Communication (Communication of the future), Ci:235

Compact disc, Cl:246

Electromagnetic waves, E:176 Eye (Diseases of the eye), E:441

Fibre optics, F:67

Fingerprinting, F:111 Heart (Treatment), H:105

High-fidelity system (The compact disc

(CD) player), H:197 Holography, H:249

Invention (Recent developments),

1:320 Ught (Other sources of light), L:257 with picture

Machine tool (Other advanced machining operations), M:17

Nuclear energy (Experimental fusion devices), N:331

Optics, 0:479

Physics (Advances in the mid-1900's), P:478 with picture Radar (The aerial), R:61; (Continued

progress) R:62 Record player (Digital sound recording and reproduction). R:165

Remote control (Kinds of remote control), R:212

Science picture on, S:140

Semiconductor (Semiconductor devices), S:247

Surveying (Modern tools), So:446 Telecommunication, T:101

Telaphone (History), T:109

Television (Video entertainment systems), T:121

laser cutting

Machine tool (Other advanced machining operations), M:17 laser glass

Glass (Kinds of glass), G:190 Laser gyroscope

Gyroscope, G:446 with diagram

Laser (Gulding), L:71 Laser light

laser (Producing laser light), L:72 with

diagrams Laser rangefinder Rangefinder, R:135

Later reflector (optics)

laser (Measuring), L:71 with picture LASH ship

Ship, S:378 with picture laski, Harold Joseph (British political

scientisti, L:74 Laste Come-Home (book by Knight) Knight, Eric, K:298

Lasso, Orlando di (Flemish composeri,

L:75

Classical music (The Renaissance period), Ci:59

Last Carousel, The [book by Algren] Algren, Nelson, A:267

Last Chronicle of Barset, The book by Trollope)

Trollope, Anthony, T:412

Last Days (book by Oates) Oates, Joyce Carol, 0:376

Last Days of Pompell, The book by Bulwer-Lytton]

Bulwer-Lytton, Edward George Earle Lytton, B:643

Last Essays of Elia, The lessays by 1 ambl

Essay (Personal essays), E:330 Lamb, Charles (His essays), L:33

Last judgment, The [painting by Bosch] Bosch, Hieronymus picture on, B:473

Last Judgment, The painting by Michelangelo)

Michelangelo, M:436 Painting (Michelangelo), P:58

Religion picture on, R:198 Sistine Chapel, S:457

Last name

Name, N:8

Last of the Barons, The book by

Bulwer-Lytton]

Bulwer-Lytton, Edward George Earle Lytton, B:643

Last of the Mohicans [book by Cooper] American literature (The romance), A:314

Cooper, James Fenimore, Cl:366

Last Supper, The [painting by Leonardo da Vincil Leonardo da Vinci, L:177; (Years In

Milan) L:177; (Paintings) L:180

Last Supper

Holy Grail, H:251

Jesus Christ, J:96 with picture Round Table (Origin), R:411

Last Tales (work by Dinesen)

Dinesen, Isak, D:173

Last Temptation of Christ, The [poem by Kazantzakis]

Kazantzakis, Nikos, K:207

Last Voyage, The [poetry by Noyes] Noyes, Alfred, N:317

Lat [Malaysian cartoonist], L:75

Latakia [Syria], L:75

Late blight

Potato (Diseases and insect pests),

Late George Apley, The Ibook by Marquand)

Marquand, John Phillips, M:216

Lateen sail

Caravel, C:186 Galleon, G:15

Invention (Middle Ages), 1:315 Ship, S:367 with picture

Latent heat

Black, Joseph, B:374

Heat (Changes in state), H:120 Refrigeration (Effects of heat transfer),

R:184

Water (Vapour), W:82

Latent image

Photography (Exposing the film), P:442

Lateral bud

Bud. B:612 with picture Plant (Stems), P:554

Lateral fissure

Brain (The cerebrum), B:511

Lateral line system

Fish (The senses of fish), F:171 with

Shark (Senses), S:332 Lateral moraine

Glacier (How glaciers shape the land), G:175 with diagram

Lateral stability

Aeroplane (The wing), A:89

Lateran, L:75

Lateran Councils [religion]

Alexander III, A:243

Innocent III (Spiritual authority), 1:237 Nicholas II (pope), N:198

Pope (Early days), P:675

Lateran Pact

Italy (Religion), 1:455

Lateran Palace

Lateran, L:75

Pope (The 1700's and 1800's), P:678 Vatican City (History), V:317

Lateran Treaty

Papal States, P:132

Pope (The 1700's and 1800's), P:678 Vatican City (History), V:317

Latex, L:75

Chewing gum (History), C:388 Chicle, C:401 with picture Rubber (First uses), R:429; (Natural

rubber R:432 Latex paint

Paint (Household paints), P:23 Latham, Sir John [Australian political

Lathe

leaderl, L:75

Machine tool (Turning), M:15

Pewter (How pewter is made), P:355 Record player (Transferring the recording to a disc), R:164 with pic-

Latimer, Hugh [religious leader], L:75 Puritans (History), P:866

Latimer, Robert M. [American scientist] Lawrenchum, L:121

Latin America, L:76 with pictures and

maps See also list of Related Articles

Agriculture, A:170

Christmas, C:491 with picture Conservation, Ci:302

Decorations, medals, and orders, D:75 Indian, American (Indians of Middle

America), 1:160; (Indians of the Caribbean) I:161; (Indians of the Andes) I:161; (Indians of the Tropi-

cal Forest) I:162; (Indians of the Marginal Regions) 1:163; (In Latin America) I:164

Library, L:228; (Famous libraries) L:233 Manufacturing, M:168

Petroleum (Where petroleum is

found), P:337 with map Roman Catholic Church, R:343 Latin-American literature, L:95 Latin cross Cathedral (The Latin cross ground plan), C:262 with diagram Latin language, L:97 Case (Cases in Latin), C:224 English language (The development of English), E:282 Italian language (Development), I:444 Latin literature (Language and form), Linguistics (Comparative and historical research), L:294 Romance languages, R:348 Romania (Language), R:351 Spanish literature, So:193 Latin literature, L:98 See also list of Related Articles Drama (Roman drama), D:288 Latin names Name (Greek and Latin names), N:9 Latissimus dorsi (anatomy) Back, B:17 Latitude (geography), L:100 with diagram Climate (Differences in latitude), Ci:80 Map (Geographic grids), M:187 with diagram Sextant, S:292 Star (Measuring direction and position), So:283 Latium (ancient Italy), L:100 Rome, Ancient (Beginnings), R:377 Latrobe, Benjamin Henry (American architectl, L:100 Latter Day Saints, Reorganized Church of Jesus Christ of, L:101 Smith, Joseph, S:499 Latter-day Saints, The Church of lesus Christ of See Mormons Latvia, L:102 with pictures and map Baltic States, B:69 Flag picture on, F:208 Riga, R:276 World War II (The invasion of the Soviet Union). W:387 Ländler (dance) Folk dancing, F:286 Waltz, W:30 Laudanum Opium (History), 0:477 Laughing Boy (book by La Farge) La Farge, Oliver, L:13 Laughing gas Nitrous oxide, N:223 Laughing hyena Hyena, **H:409** Laughing jackass Kookaburra, K:317 Laughing kookaburra Bird picture on, B:332 Kookaburra, K:317 Laughton, Charles [British actor], L:105 Film industry (Best performance by an actor), F:96

Launceston (Tasmania), L:105

Launch vehicle Rocket (Launching probes and satellites). R:318 Space exploration, So:132 with pictures; (Space exploration terms) So:130; (Overcoming gravity) So:133 Launch window Space exploration (Space exploration terms), So:130; (Sending people to Mars) So:162 Launching Guided missile (Launching equipment), G:407 Rocket (Launching a rocket), R:317 Satellite, Artificial (Launching the satel-Launfal, Sir (legendary figure), L:105 Launoy (French inventor) Helicopter (Early designs and experiments), H:141 Laura Ingalls Wilder Award, L:105 Brown, Marcia Joan, B:592 Earth (The shaping of the continents), F:25 Laureate See Poet laureate Laurel [shrub], L:105 with picture Daphne, D:32 Decorations; medals, and orders (History), D:76 Laurel and Hardy [American actors], L:106 with picture Laurel magnolia Magnolia, M:60 Laurel, Jose Paciano, L:106 Laurence, Margaret (Canadian author), Laurence, Timothy Elizabeth II (The royal family), E:214 Laurencin, Marie (French painter), L:106 with picture Laurentian Plateau See Canadian Shield Laurier, Sir Wilfrid | Canadian political ieader! Quebec, Q:10 Lausanne [Switzerland], L:106 with pic-Lausanne, Treaty of Atatürk, Kemal, A:703 Bosporus, B:476 Dardanelles, D:33 Greece (World War I), G:343 Yemen (History), Y:450 Laussedat, Aimé IFrench military Photogrammetry, P:439 Lautarite lodine (Sources of iodine), 1:325 Lava, L:107 with pictures Basalt, **B:123** igneous rock, I:28 Magnetism (The magnetism of the earth), M:57 Pumice, P:853 Rock (Extrusive rock), R:307

Silicon, S:421

Suffolk (Places to visit), So:389 with picture Laver, Rod [Australian tennis player], L: TOB Tennis (Tennis tournaments), T:146: (table) T:147; (table) T:148; (The mid's) T:148 with picture Laveran, Charles Louis Alphone [French surgeon], L:108 Lavery, Sir John [Irish painter], L109 with picture Lavin, Mary (American writer), L109 Lavo [tent] Lapland picture on, L:63 Lavoisier, Antoine Laurent French chemistl, L:109 with picture Air (The study of air), A:188 Biology (Materialistic physiology and the cell theory), B:307 Chemistry (Lavoisier's contributions) C:369; picture on C:370 Element, Chemical, E:195 Fire (What is fire?), F:125 Gas (History), G:59 Oxygen (History), 0:538 Science (The Age of Reason), \$:148 Law, L:110 See also list of Related Articles Amnesty, A:337 Animal, A:413 Bible (The Law), B:271 Blood (The significance of blood groups), B:398 Bracton, Henry de, B:505 Colonial life in America (Law enforce ment), Ci:180 with pictures Congress of the United States (How Congress makes laws), Ch283 Economics, E:63 Government (Law enforcement), (25) International law, 1:291 Maritime law, M:211 Marriage (Laws concerning marriage) M:218 Martial law, M:231 Police, P:639 Rome, Ancient, R:377 United Kingdom, Legal systems of the War (War means absence of law), Law, Andrew Bonar (British politicish Law, John (Scottish financier), LIST

Volcano, V:417 with diagram

Pacific Islands (Clothing), P.7

Butter (History), B:679

with portrait

Lavenham (England)

Laval, Carl Gustaf de [Swedish engi-

Laval, Pierre [French politician], L108

Lavender [plant], L:108 with picture

Lavender Hill Mob, The [film]

Balcon, Sir Michael, B:38

Lavengro (book by Borrow)

Borrow, George, B:472

Lava-lava (clothing)

neerl

Plant, P:554 with picture

Tree, T:378 with pictures

Beetle (Kinds of beetles), B:198

Ant (Fungus growers), A:433; picture

Transpiration, T:345

Vegetable, V:322

Leaf beetle

Leaf-cutter ant

Soil (Chemical conditions), So:22 Lawson, William [Australian explorer], Law enforcement, L:117 United Kingdom, Geology of the (Geol-See also list of Related Articles L:122 with portrait ogy and soils), U:109 Lawyer, L:123 Government, G:268 Leaching field Address, Forms of, A:41 Law lord Water pollution (Sewage), W:89 Australia, Legal system of, A:829 House of Lords, H:327 Leacock, Stephen Butler (Canadian au-Parliament (The House of Lords), P:191 Laxative, L:123 thor), L:123 United Kingdom, Government of the Constipation, Ck308 Lead (element), L:124 with picture Phenolphthalein, P:361 The House of Lords), U:110 Brass, B:524 Laxey Wheel law of combining volumes Element, Chemical (table), E:196 Man, Isle of picture on, M:140 Gay-Lussac, Joseph Louis, G:66 Environmental pollution (Government Law of constant proportions Laxton [England] action), E:305; (Business and in-Nottinghamshire (Places to visit), Proust, Joseph Louis, P:820 dustry) E:306 N:307 law of large numbers Galena, G:11 Lav investiture Insurance, I:272 Lead poisoning, L:125 Gregory VII, Saint, G:365 Law of Moses Metallurgy (History), M:376 Nicholas II [pope], N:198 Law (Early developments in the East), Paint (Household paints), P:23 Pope (The peak of papal power), P:677 Pewter, P:355 Lay of the Last Minstrel, The book by Moses, M:631 Radiogeology, R:91 Ten Commandments, T:138 Lead acid storage battery Scott, Sir Walter (His life), S:175 law of superposition Battery, B:155 with picture Layamon (English priest) Geology (The Renaissance), G:92 Lead (Uses), L:124 Round Table (Origin), R:411 law of the Sea Treaty [1982] Lead alloy Layard, Sir Austen Henry British dip-Ocean (Who owns the ocean?), O:402 Lead (Properties), L:124 Pacific Ocean (Exploration), P:15 Lead arsenate [chemical] Archaeology (The 1800's), A:504 Territorial waters, T:158 Cankerworm, C:126 Lavering United Nations (Peaceful uses of outer Insecticide (Inorganic insecticides), Plant (Vegetative propagation), P:559 space and the seabed), U:180 E:264 with picture Lawful homicide Lead dioxide Laying hen Homicide, H:256 Battery (Lead-acid storage batteries), Poultry (Raising poultry), P:726 Livier, Ray (Australian dramatist), L:117 B:155 with picture Laying house Lawless, Theodore Kenneth (Ameri-Lead glass Poultry (Raising poultry), P:726 can doctor), L:117 Glass (The Middle Ages), G:196 Lays of Ancient Rome book by Lawn (grass), L:118 with pictures Lead ore Macaulayl Lawn tennis Lead (How lead is obtained), L:125 Horatius, H:277 Tennis (The court), T:142 Lead pencil Macaulay, Thomas Babington, M:5 Lawrence (ship) Graphite, G:300 Lazarists |religion| Perry, Oliver Hazard, P:289 Pencil (Cased pencils), P:254 Vincent de Paul, Saint, V:395 Lawrence, D. H. (English writer), L:120 Lead poisoning, L:125 Lazarus (Biblical figure), L:123 with portrait Lead (Hazards of lead), L:124 Jesus Christ (The miracles), J:98 Lawrence, Ernest Orlando (American Painter's colic, P:27 Lazarus Laughed (book by O'Neili) physicistl, L:121 Lead sulphate Cyclotron, Ci:511 Lazarus, L:123 Battery (Lead-acid storage batteries), Lazear, Jesse William (American doc-Lawrence, Marjorie (Australian so-B₁155 prano), L:121 tor], L:123 Leaded brass Lawrence, Sir Thomas (English Lazuli bunting Brass, B:524 painterl, L:121 Bunting, B:646 Leaded petrol Lawrence, T. E. (British soldier and Lazurite Petrol (Petrol additives), P:330 Lapis lazuli, L:62 writer), L:121 with portrait LBW (leg before wicket) Allenby, Lord, A:273 Fishing (Leaders), F:183 Lawrence of Arabia Cricket (Umpires), Cl:427 with picture Leadership See Lawrence, T. E. I CD watch Human relations, H:360 Watch (Electronic watches), W:66 with Lawrence of Arabia (film) Leadwort Film industry (Best picture), F:96 pictures Plumbago, P:600 Lean, Sir David, L:136 Leaf, L:126 with pictures Titles beginning Le appear under their Lawrencium (element), L:121 See also list of Related Articles Lawson, Ernest [American painter], key words. Personal names begin-Deciduous tree, D:68 ning Le are alphabetized as single L:121 with picture Fern (Parts of a fern), F:55 with pic-Ashcan School, A:621 words Le Duc Tho (Vietnamese politician) tures Australia, Literature of (The Middle Pe-Grass (The grass plant), G:301 International relations picture on, rlod), A:830 Lawson, Henry [Australian writer], Palm, P:106

1:294

Copper, Cl:343

Essex (Rivers), E:333

age), 1:408

Metallurgy, M:376

Leach, Bernard British potterl, L:123

Irrigation (Providing artificial drain-

Lea [river]

Leaching

L122 with portrait

with portrait

lad), A:831

Australia, Literature of (The bush bal-

Australia, Literature of (The bush bal-

lad), A:831 with picture Lawson, Nigel (British politician), L:122

Lawson, Will [Australian writer]

Homo habilis, H:257

Tanzania (History), T:35

Leakey, Mary Douglas (British an-Estate, E:334 on A:427 Tenant, T:139 thropologistl, L:136 Leaf insect, L:133 with picture Leasehold (law) Homo habilis, H:257 Leaf lettuce Estate, E:334 Zinjanthropus, Z:498 Lettuce (Kinds of lettuce) picture on, Least darter Leakey, Richard Erskine Frere (British L:194 Darter, D:37 anthropologistl, L:136 Leaf miner (insect), L:133 with picture Least weasel Learnington (England) Moth. M:639 with pictures Warwickshire (Places to visit), W:49; Weasel, W:109 Leaf-monkey picture on W:50 Leather, L:140 with pictures Colobus, Cl:167 Lean-to Goat (Domestic goats), G:221 Langur, 1:55 Leather-Stocking Tales, The book by Roof, R:386 with picture Leaf print Lean, Sir David British film directorl, Leaf (How to collect leaves), L:132 Cooper, James Fenimore, Ck336 L:136 Leaf rubbing Leatherback turtle Film industry (Best achievement in di-Leaf (How to collect leaves), L:132 Animals (How animals raise their recting), F:96 Leaf spot young), A:406 Alfalfa (Diseases and pests), A:248 Leander Leathercraft, L:143 with pictures Hero and Leander, H:180 Banana (How bananas grow), B:71 Leaning Tower, The book by Porter Leaven, L:144 Lawn (Controlling diseases, pests, and Baking powder, B:34 Porter, Katherine Anne, P:697 weeds), L:120; picture on L:119 Bread (Kinds of bread), B:547 Leaning Tower of Pisa (Italy), L:136 Pea (Diseases and pests), P:224 Flour (Types of flour), F:237 with picture Sugar beet (Growing sugar beet), Yeast (How yeast is used), Y:442 Campanile, C:62 50:393 Leaves from Australian Forests po-Leap second Leafcutting bee etry by Kendall) Calendar (The calendar today), C:34 Bee, B:190 with picture Kendall, Henry, K:215 Leafhopper, L:134 with picture Year (The calendar year), Y:442 Leaves of Grass [poetry by Whitman] Leap year, L:136 Potato (Diseases and insect pests), American literature (Walt Whitman Calendar (The calendar today), C:34 P:720 and Emily Dickinson), A:315 Gregorian calendar, G:365 Leaflet Whitman, Walt, W:239 Leaf (The parts of a leaf), L:128 Year (The calendar year), Y:442 Leaving Certificate examination, Lear, Edward (British writer), L:137 Leaflet bomb 1:144 Bomb (Other conventional bombs), Limerick, L:282 Leavis, F. R. (literary critic), L:144 Lear, King R:435 Leavitt, Henrietta Swan (American & Shakespeare, William, S:319 with pic-Leafroll tronomerl, L:144 trene Potato (Diseases and insect pests), Lebanon, L:144 with pictures and map Learned motive See also list of Related Articles Motivation, M:649 League (unit of measure), L:134 Beirut, B:208 League Covenant, The Learner literacy Flag picture on, F:205 Reading (The importance of reading), League of Nations, L:134 Israel (Recent developments), 1439 III:150 League of Corinth Middle East (Recent developments), Philip II, P:366 Learning, L:137 M:457; picture on M:453 See also list of Related Articles League of Nations, L:134 Palestine Liberation Organization, Geneva, G:82 Animal (Learning and play), A:408 P:104 Behaviour, B:202 International law (Courts and arbitra-Peres, Shimon, **P:279** Biofeedback (Biofeedback in medicine Syria (Recent developments), \$0525 tion), 1:292 World War II (table: The Allies), W38 and psychology), B:300 International relations (Collective security), I:295 Culture, Cl:491 Lebanon Mountains Mandated territory, M:149 Education (Learning and teaching), Lebanon (Land and climate), L:146; Peace (The 1800's and early 1900's), Lebor Gábala (book of Conquests) Irish literature (The Golden Agel, 1387) P-225 Habit (How we learn habits), H:2 Mythology (The Irish cycles), M:760 Smuts, Ian Christiaan, S:503 Maya, M:279 United Nations, U:160 Perception, P:277 Lebowa, L:148 Psychology (Major fields of psychol-See also South African Homelands Versailles, Treaty of (Background of Le Carré, John British author, Litt the treaty), V:349 ogy), P:828 Wilson, Woodrow (The Fourteen Reading (The teaching of reading), Lechenaultia (plant), L:149 Points), W:262 R:152 Lecithin World War I (The Fourteen Points), Socialization, So:10 Soybean (Soy oil), So:126 Lecky, William Edward Hartpols W:375 Study, So:361 World War II (Nationalism), W:379 Television (Effects on learning), T:128 historian], L:149 League of Pizren Thorndike, Edward Lee, T:226 Leclanché dry cell Battery (Carbon-zinc cells), B:154 Albania (History), A:230 Learning ability test Leclanché, Georges [French sclentis] Testing (Kinds of tests), T:163 League of Youth, The [play by Ibsen] Drama (Ibsen), D:298 Learning disabilities, L:139 Battery (History), B:156 Lecoq de Boisbaudran, Paul Emile Dyslexia, D:366 Leakage current Occupational therapy (Helping the Electronics (Solid-state components), Dysprosium, D:366 mentally disabled), 0:385 Gallium, G:17 Leakey, Louis Seymour Bazett [British Reading (Reading problems), R:156 Le Corbusier [Swiss architect], Little Special education (Mentally handianthropologisti, L:136 Architecture, A:537 with picture, Eur capped children), So:206

Lease liawi, L:140

modern architecture in Europe) A:532 Golden section, G:240 Lectionary Byzantine art (Other art forms), B:699 Lectures in America Iwork by Steinl Stein, Gertrude, So:312 Lectures on Literature book by Nabokovl Nabokov, Vladimir, N:2 Lederberg, Joshua (American geneticisti, L:149 Lederman, Leon M. [American physi-Unsilon particle, U:271 Lee Kuan Yew [Singapore political leader], L:151 Singapore (Toward independence), S:451 Lee Teng-hul [president of the Republic of Chinal, L:151 Taiwan (History), T:12 Lee, Harper [American author], L:149 Lee, Henry [American military leader], L:149 with picture Lee, Laurie (British poetl, L:150 Lee, Manfred B. See Queen, Ellery Lee, Robert Edward (Confederate general), L:150 with picture American Civil War (Grant and Lee in Virginia), A:307 Pennsylvania (History), P:264 Lee, Tsung Dao [Chinese-American physicistl, L:151 Parity, P:185 Yang, Chen Ning, Y:439 leach |worm|, L:151 with picture Worm (Segmented worms), W:411 Leechee See Litchi Leeds (England), L:152 with picture Leek (vegetable), L:152 with picture Leerdam glass Glass (Types of art glass), G:198 leeuwenhoek, Anton van (Dutch scientisti, L:152 Bacteria (History), B:22 Bacteriology (History), B:23 Biology (Early discoveries with the microscope), B:306

research), M:315

Dominica (History), D:257

Edison, Thomas Alva, E:79

Brain (The cerebrum), **B:511** Left Hand of Darkness, The lbook by

left cerebral hemisphere

Le Guin, Ursula, L:157

Lefferts, Marshall [American business-

Montserrat, M:581

West Indies, W:163

mani

Le Guinl

Drug (Scientific advances), D:318 Medicine (The beginnings of modern Microscope (History), M:443 Leeward Islands (West Indies), L:153 Virgin Islands, British, V:402

Left jab

Left hook Boxing picture on, B:496 Boxing picture on, B:496 Left Leg, The [book by Powys] Powys (Theodore Francis), P:733 Left wing ipolitics], L:153 Leg, L:153 with picture Animal (Legs and feet), A:396 with pictures Bee, B:185 Beetle, **B:197** Bird, B:351 Butterfly, B:686 Frog, F:464 with picture Horse (Legs and hoofs), H:292 with pictures Insect (The bodies of insects), 1:249 Reproduction, Human (The arms and legs), R:229 Rickets, R:271 with pictures Skeleton (The appendicular skeleton), S:461 with diagram Legacy [law], L:154 Executor, E:414 Will. W:254 Legal aid, L:154 Legal name Name, N:8 Legal precedent Law (Systems of law), L:111 Legal separation Divorce, D:214 Le Gaillenne, Dorian ¡Australian composerl, L:154 Legation (diplomatic mission), L:154 Legazpi, Miguel López de (Spanish explorer, L:154 Legend and Dreaming(1952) [poem by Robinson Australia, Literature of (Modern poetry), A:833 Legend (folk story), L:154 Authur, King,, A:609 Fairy, F:9 Fire (Fire in legend and religion), F:127 Folklore, F:289 Moon (Legend and folklore), M:594 Mythology, M:751 Surrey, So:442 Sussex, So:447 Legend (map) Map, M:184 with illustrations Legend of Montrose, A [book by Scott] Scott, Sir Walter (The Waverley novels), S:175 "Legend of Sleepy Hollow, The" [story by Irvingl la Fanu, Sheridan [Irish writer], L:153 American literature (New York and the

Knickerbockers), A:311

Hugo, Victor Marie (His works), H:344

Legend of the Invisible City of Kitezh

... (opera by Rimsky-Korsakov)

Rimsky-Korsakov, Nikolai, R:278

Irving, Washington, I:409

Hugo]

Left-handedness

Handwriting (Lefthanders), H:52

Legend of Troy [poetry by Barbour] Barbour, John, B:108 Bulfinchl Pomare! with picture cial), L:155 Legerdemain Léger, Alexis Leghorn (bird) Legislation Ci:41 A:804: Cl:293 Food supply (Other major food sources), F:311 Nitrogen (Nitrogen and life), N:222 Pea, P:223 with pictures Legend of the Centuries, The work by

Legendre, Adrien Marie French mathematician), L:155 Mathematics (In the 1800's), M:260 Legends of Charlemagne book by Bulfinch, Thomas, B:632 Legends of the Maori, The book by Pomare, Sir Maul, P:663 Legends of the Saints | poetry by Bar-Barbour, John, B:108 Léger, Fernand (French artist), L:155 Painting (Cubism), P:79; picture on Léger, Jules (Canadian government offi-Magician (Kinds of magic), M:48 Perse, Saint-John, P:291 Chicken (Mediterranean class chickens), C:396 with picture; (Commercially important breeds) C:396 Leghorn (Italy), L:155 Legion (Roman Empire), L:155 Army (Ancient armies), A:592 Legionella pneumophila Legionnaires' disease, L:156 Legionnaires' disease, L:156 Child labour, C:411 Civil rights (Examples of civil rights), Law (How laws are changed), L:112 Legislative Assembly Australia, Government of (State and territory governments), A:791 Canada, Government of (Provincial and territorial governments), C:92 French Revolution (The Legislative Assembly), F:452 Legislative Council Australia, Government of (State and territory governments), A:791 Australia, History of(Political power), Legislature, L:156 New South Wales, N:123 Le Guin, Ursula [American author], Legume [plant], L:157 Alfalfa (The alfalfa plant), A:246 Conservation (Soil conservation), Fertilizer (Organic fertilizers), F:60

Prairie (Life on the prairie), P:737

Lehár, Franz [Hungarian composer],

Lehmann, Lotte [German soprano],

1:157

Le Havre [France], L:157

Lehmbruck, Wilhelm [German sculptorl. L:157 Lehrbuch der Psychiatre (book by Kraepelin) Abnormal psychology (History), A:13 Leibnitz Mountains Moon (The moon's surface), M:585 Leibniz, Gottfried Wilhelm [German philosopherl, L:157 Calculus (History), C:27 Computer (Early calculating devices), CI:264 Mathematics (Mathematics and the scientific revolution), M:260 Newton, Sir Isaac, N:187 Numeration systems (Rediscovering numeration systems), N:350 Philosophy (Rationalism), P:424 Physics (Newton), P:475 Science (The scientific revolution), S:146 Leicester [England], L:158 Leicestershire (Places to visit), L:159 Leicester, Earl of [English nobleman], L2188 Leicestershire (England), L:158 with pictures Arms picture on, A:586 North West Leicestershire, N:265 Leichhardt, Ludwig (German explorer), L:160 with pictures and map Forrest (Exploration), F:362 Northern Territory (History), N:285 Leiden [Netherlands], L:161 Leigh-Mallory, Sir Trafford (British air force leaderl, L:161 Leighton, Lord [British painter], L:161 Leinster (Ireland), L:161 with picture and Arms picture on, A:587 Leinster House Dublin (People and government), D:331 with map Ireland, Government of picture on, Oireachtas, 0:421 Leipoldt, Christian (South African author], L:162 Leipzig [Germany], L:162 with picture Leishmania [parasite] Kala-azar, K:180

Lelsler, Jacob (American colonial leaderl, L:163 Leisure Play, P:592 with pictures Recreation, R:168 Leith Hill (England) Surrey (Places to visit), So:444 Leith, Treaty of S:171 Leitmotif

Scotland, History of (The Reformation), Classical music (The romantic era), Cl:61 Opera (table), 0:457; (The orchestra) Cb459 Leitrim [Ireland], L:163 with picture Arms picture on, A:587

Lekhanya, Major General Justin [Lesotho military leader] Lesotho (History), L:187 Leland, Henry M. [American businessmanl Car (The United States car industry), C:166 L'Elisir d'amore [opera by Donizetti] Donizetti, Gaetano, D:266 Lely, Sir Peter [Dutch-born painter], L:164 with picture Le Mans [France], L:165 with picture Lemass, Seán Ilrish political leaderl, L:165 with portrait LeMay, Curtis Emerson | American general], L:165 World War II (Closing in on Japan), W>100 Lemmer Whale (Processing whale products), W:213

Lemming (animal), L:166

Animal picture on, A:393 Arctic (Animal life), A:542 Lemon (fruit), L:166 with picture Citric acid, Cl:17 Lemon baim [plant], L:167 Lemon-scented gum [tree]

Eucalypts picture on, E:349 Lemon shark Fish pictures on, F:175; F:177 Le Moyne, Charles [Canadian colonist], L:167 with portrait Le Moyne, Pierre

Lemur (animal), L:167 with picture Lena River, L:168 with picture Russia (Rivers and lakes), R:478 Lend-Lease, L:168

See Iberville, Sieur d'

Roosevelt, Franklin Delano (Eve of war), R:389 World War II, W:387 Lending institution Credit, CI:420

Lendi, Ivan [Czech-born tennis player]. Tennis (table), T:148; (Tennis today)

T:149 with picture L'Enfant, Pierre Charles (French engineer], L:168 Town planning (The Renaissance),

T:318 Washington, D.C., W:56; (History)

L'Engle, Madeleine [American author], L:168

W:59

Length Measurement (How measurements are made), M:293 with pictures;

(Length and distance) M:294; picture on M:295 Metre, M:384 with picture Metric system, M:385; (Length and dis-

tance measurements) M:386 with pictures; (table) M:388 Weights and measures, W:136 Lenihan, Brian (Irish politician), L:169

Lenin, V. I. [Russian political leader], L:169 with pictures

Bolsheviks, B:432 Communism, Ci:238 Krupskaya, Nadezhda Konstantinovna K:336

Politburo, P:647 Political science (Democracy and so-

cialism), P:654 Russia (Nicholas II), R:489 with picture (The October Revolution) R490 Union of Soviet Socialist Republics

(History), U:32; picture on U24 Lennon, John British musiciani, Lift with portrait

Beatles, B:174 with picture Rock Music (The Beatles), R:312 with picture

Lenny [film]

Hoffman, Dustin, H:240 Lenoir, Jean Joseph Étienne (French inventori, L:173

Car (The petrol-engined car), C:167 Energy supply (The industrial revolution), E:250 Invention (The late 1800's), 1:318

Petrol engine (Development of the per rol engine), P:334 Le Nôtre, André [French landscape de

signer), L:173 Lens, L:173 with diagrams

Aberration, A:11 with diagrams Binoculars, B:297 with diagram Camera, C:55 with picture Lighthouse (How lighthouses work) Magnifying glass, M:60

Photography (Capturing light rays), P:442 with diagram Projector, P:799 with diagram Telescope (Optical telescopes), Tills

picture on T:114 Lent (religion), L:174 Ash Wednesday, A:620 Carnival, C:205 Easter (Religious observance of

Easter), E:42 Lenten rose Hellebore, H:144

Lenticel [botany], L:175 Bark (Outer bark), B:111 Lentil [plant], L:175 with picture Lenz, F. E. [German scientist]

Lenz's law, L:175 Lenz [work by Büchner]

Büchner, Georg, **B:607** Lenzi, Mark (diver) Olympic Games picture on, 0,440

Lenz's law [physics], L:175 Leo [constellation], L:176 with picture

See also Leonids Leo I, Saint [pope], L:175

Pope (The early papacy), P:676 Roman Catholic Church (The recognit tion of Christianity), R:338

Leo III, Saint [pope], L:175 Christianity (The Middle Ages), Calif Leo IX, Saint [pope], L:176

Eastern Orthodox Churches (History) Pope (The early Middle Ages), P.576

F:448 Africa picture on, A:141 Lee VI [Byzantine emperor] Lesbian Byzantine Empire (Invasion and con-Animal pictures on, A:383, A:389 Leopard frog quest), B:701 Frog (Kinds of frogs), F:468; Lea X, Saint [pope], L:176 Aeolians, A:69 Luther, Martin (Reformation leader), Leopard [ship] Jefferson, Thomas (Second administra-1:419 L:104 tion), 1:80 Raphael (His life), R:138 Leschenaultia Leopardi, Giacomo (italian poet), L:182 Wolsey, Thomas Cardinal, W:290 Italian literature (Romanticism), 1:446 Leo X [pope] Leopold I (king of the Belgians) Leonardo da Vinci (Last years), L:178 Leslie, L:185 Belgium (Independence), B:221 Leo XIII, Saint [pope], L:176 Rampolla, Mariano Cardinal, R:132 Leopold, L:182 Leslie, L:185 Leopold II (king of the Belgians) Roman Catholic Church, R:343 Leslie, Sir Shane [British author] Belgium (Independence), B:221 Vatican City (Vatican Archive), V:316 Leslie, L:185 Leopold, L:182 Leominster [England], L:176 Leopold III (king of the Belglans) León, Ponce de Leslie, L:185 Leopold, L:182 See Ponce de León, Juan Lesotho, L:185 with pictures and map Leonard and Gertrude book by Pes-Leopold, Aldo (American naturalist), talozzil Leopold, Nathan F., Jr. (American pub-Pestalozzi, Johann Heinrich, P:318 Maseru, M:241 lic figure Leonard, Sugar Ray [American boxer], Darrow, Clarence Seward, D:37 Léopoldville Boxing (Recent developments), B:499; Kinshasa (History), K:286 (table: Super middleweights) Lepanto, Battle of B:500 Lease, L:140 Cervantes, Miguel de, C:329 Leonardo iself-portrait by Leonardo da Tenant, T:139 Navy (The beginning of modern navies), N:60 picture onN:61 Leonardo da Vinci picture on, L:180 Turkey (The start of the Ottoman de-Leonardo da Vinci (Italian painter), cline), T:463 Lepidoptera Aerodynamics (History), A:73 Butterfly, B:680 with pictures Aeroplane (Early experiments and Insect (table), 1:262; pictures on 1:244 ideas), A:76 with picture

Moth, M:639 with pictures Air conditioning (History), A:194 Lepidus, Marcus (Roman military Biology (The Renaissance), B:306 Heart picture on, H:111 leader Antony, Mark, A:466 Helicopter (Development of the heli-Augustus (Rise to power), A:745 copter), H:136 with picture Rome, Ancient (Breakdown of the relesus Christ picture on, J:96 public), R:380 John the Baptist, Saint picture on, J:131 Leonardo da Vinci, L:177 with pictures Lepontine Alps

Switzerland (The Swiss Alps), So:496 Leprechaun Fairy (What fairles look like), F:9

Lepromatous leprosy Leprosy (Symptoms), L:183 with pic-

ture Leprosarium

Leprosy (Treatment), L:183 Leprosy (disorder), L:183 with pictures Medicine (The Middle Ages), M:314 Leptocephalus

Eel (Life cycle), E:95 Leptodactylid frog Frog, F:468

Lepton [physics], L:184 Boston, B:475 Muon, M:703 Neutrino, N:105 Particle physics, P:206

Lerner, Alan Jay (American lyricist), Musical comedy (The modern musi-

cal), M:740 Les indes galantes (work by Rameau)

Rameau, Jean-Philippe, R:131 Lesage, Alain René [French author], French literature (The Age of Reason),

Homosexuality, H:258 Lesbos (Greek island), L:184

Lesch-Nyhan syndrome (disorder),

Lechenaultia, L:149

Leslie, George [Australian farmer]

Leslie, Patrick (Australian farmer)

Leslie, Walter [Australian farmer]

Flag picture on, F:201 Free State (History), F:432

Lespedeza [plant], L:185 with picture

Less Deceived, The [poetry by Larkin] Larkin, Philip, L:66

Lesseps, Ferdinand Marie de See De Lesseps, Ferdinand Marie

Lesser Antilles (Islands, West Indies) French West Indies, F:455

Leeward Islands, L:153 Martinique, M:233

West Indies, W:163; maps on W:164

Lesser green broadbill Bird picture on, B:325

Lesser mouse lemur

Lemur, L:167 Lesser prairie chicken

Prairie chicken, P:738 Lesser Sunda Islands (Indonesia)

indonesia (The Islands), I:187 Lessing, Doris (British writer), L:185

Lessing, Gotthold Ephraim [German playwrightl, L:185

Drama (Germany), D:296 German literature (The enlightenment), G:108

Lessor

Lease, L:140 Tenant, T:139

Le Sueur, Pierre (French explorer), LOBB

Leszczyński, Stanislas (king of Poland) Succession wars (The War of the Pol-

ish Succession), So:378 Let down

Paint, P:25

Let Us Now Praise Famous Men [work by Agee and Evansl

Agee, James, A:158

Evans, Walker, E:402 Lethal yellowing (disease)

Coconut palm (Growing coconut palms), Ci:143

Lethe (river mythology), L:188 Leto

Artemis, A:604 Niobe, N:220

Leontier, Wassily (American economist) Input-output analysis, 1:238 Leopard [animal], L:181 with picture

Medicine (The Renaissance), M:315

Michelangelo (Early life), M:433

Physics (The Renaissance), P:474

Sound (The wave theory), So:53

Opera (Pagliacci, I), O:472

Büchner, Georg, B:607

Themistocles, T:212

Thermopylae, T:216

picture

Leonids (astronomy), L:181

Leoncavallo, Ruggiero (Italian com-

Leonce and Lena (work by Büchner)

Meteor (Meteor showers), M:381

Space exploration (Voskhod and Gem-

ini: The first multiperson space

flights), So:148 with picture; (The

Apolio z Test Project) So:155 with

Leonov, Alexel [Russian astronaut]

Leonidas I lking of ancient Spartal, L-181

Renaissance (The fine arts), R:217 with

Painting, P:56; picture on P:59

Parachute picture on, P:160

Raphael (His life), R:138

picture

poser], L:181

Barth, John, B:121

Leviathan, ... a Commonwealth to Letting Go (book by Roth) Let's Read [book] clesiastical and Civil work by Roth, Philip, R:407 Barnhart, Clarence Lewis, B:114 Lettres sur la danse, et sur les ballets Hobbesh Letter Hobbes, Thomas, H:235 [book by Noverre] Braille pictures on, B:510 Levine, Jack [American artist], Little Ballet (French leadership), B:55 Flag pictures on, F:215 with picture Morse code pictures on, M:620 Letts Levine, James [American conductor] Latvia (The people), L:102 Semaphore pictures on, S:247 Lettuce, L:194 with pictures L:197 with portrait See also Alphabet and articles on spe-Levites [Old Testament], L:198 Lettuce coral cific letters, such as A Coral picture on, Cl:349 Leviticus [Old Testament], L:198 Letter, The [film] Lettuce drop |plant disease| Pentateuch, P:266 Davis, Bette, D:46 Lettuce (Diseases and insect pests), Levy Letter from Sydney, A (book by Wake-See Tariff L:195 Lewes (England), L:198 Letty Fox: Her Luck (book by Stead) Wakefield, Edward Gibbon, W:8 Lewin, Kurt [German-born psychologist Letter of application Stead, Christina, So:307 Social psychology, So:4 Leu (coin), L:195 Letter writing, L:190 Lewis and Clark expedition, L199 Leucippus [Greek philosopher] Letter of complaint with map Materialism, M:254 Letter writing (Letters of complaint), Clark, William, Ci:154 Pre-Socratic philosophy (The teachings L:191 with illustration Exploration (Crossing North America) of Parmenides), P:770 Letter of credit, L:188 E:424 with map Letter to a Young Painter, A lwork by Leucocyte Lewis, Meriwether, L:199 Blood (White blood cells), B:394 Sacagawea, S:5 Read, Sir Herbert, R:149 Leucocyte pyrogen Lewis Textile Museum Fever, F:65 Letter to Louis XIV (book by Fénelon) Lancashire picture on, L:41 Leucocytosis (disorder), L:195 Fénelon, François de Salignac de la Lewis, C. S. [British author], L:198 Leucopenia Mother, F:51 Lewis, Carl lathletel Letter writing, L:188 with pictures Blood (White-cell abnormalities), Olympic Games picture on, 0:441 B:400 See also list of Related Articles Lewis, George E. [American ar-Leucosis Lettering [art] thropologistl Johnston, Edward, J:135 Poultry (Raising poultry), P:727 Ramapithecus, R:129 Leukaemia (disorder), L:195 Lettering pen Lewis, Gilbert Newton [American Blood (White-cell abnormalities), Pen (Speciality pens), P:251 chemist Letterpress printing Chemistry (Development of physical Cancer (Cancers of the bloodforming Magazine (Editing and assembling an chemistryl, C:371 and lymphatic systems), C:120 issue), M:41 Deuterium (Discovery), D:143 Leutze, Emanuel Gottlieb Newspaper (Printing the paper), N:183 Heavy water, H:129 [American painter], L:196 Photoengraving and photolithography Lewis, John Aaron [American plants] (Letter press photoengraving), Levant cotton L:198 P:436 Cotton (Kinds of cotton), Ci:382 Jazz (New directions), J:78 Printing (Printing by relief), P:782 Levator scapulae [anatomy] Lewis, Meriwether (American explore) Letters Concerning the English Na-Back, B:17 Clark, William, Cl:154 tion [book by Voltaire] Le Vau, Louis [French architect] Exploration (Crossing North Amenta) Architecture (Baroque architecture), Voltaire (Exile and return to France), E:424 with map; (table) E424 V:424 Lewis and Clark expedition, L199 Letters from an American Farmer Versailles, V:348 with picture Rocky Mountains (History), R:328 Level [instrument], L:196 with pictures [book by Crèvecoeur] Sacagawea, S:5 Level loop rugs and carpets Crèvecoeur, Michel-Guillaume Jean Westward movement (Exploration) de, Ci:423 Rugs and carpets, R:449 Lewis, Sinciair (American author), 119 W:198 Levellers [political group], L:196 with Letters from an American Farmer [essay by Crèvecoeur] picture with portrait American literature (Satirists): A:318 American literature (The revolutionary Lever-action rifle period), A:311 Rifle, R:274 with picture Nobel Prizes portrait on, N:232 Letters from My Mill [work by Daudet] Lever [machine], L:196 with pictures Lewisham Daudet, Alphonse, D:42 Archimedes (His discoveries), A:511 England, L:200 Lexcen, Ben [Australian marine archr Letters of E. B. White [work by White] Machine (Six simple machines), M:12 White, E. B., W:231 with picture tectl, L:200 Letters on Literature and Politics: Wheel and axle, W:226 Lexington [U.S.A.], L:201 Wheelbarrow, W:227 1912-1972 [work by Wilson] Lexington, Battle of American Revolution (Lexington and Leveret [animal] Wilson, Edmund, W:261 Letters on the Subject of Peter Plym-Hare, H:59 Concord), A:325 ley (book by Smith) Leverrier, Urbain J. J. French mathe-Leyden Smith, Sydney, S:500 See Leiden Astronomy (The discovery of new Letters patent, L:194 Leyden jar, L:201 with picture Electricity (Historic achievements in Nobility (In Great Britain), N:236 planets), A:699 electricity), W:169 with picture Peer of the realm, P:243 Neptune, N:79 Leyden, Lucas Van lengraver Lévi-Strauss, Claude French an-Letters, The [New Testament] thropologistl, L:197 Bible, B:274 Engraving (History), E:297 Mythology (Lévi-Strauss's theory), Letters (book by Barth)

M:765

Leyte [island]

421

Liability insurance Insurance, I:274 Liège (Belgium), L:244 Liana (plant), L:202 with picture Tropical rainforest (Plant life), T:415 Libation Bearers, The [play by Aeschylusl

T:25

Asschylus, A:108 Ubbey, Edward Drummond [American businessman! Fibreglass (History), F:69 Libby, Willard F. [American chemist]

Archaeology (The 1900's), A:504 Radiocarbon (Radiocarbon dating), B:90 Ubel llawl, L:203

Uber Abaci [book by Fibonacci] Fibonacci, Leonardo, F:66 Liberal arts, L:203

Uberal Democrats [political group], See also list of Related Articles

Ashdown, Paddy, A:621 Liberal Party

New Zealand, History of (The Liberal era), N:172 United Kingdom, Government of the,

U:113 United Kingdom, History of the (Affairs

in Parliament), U:149 United Kingdom, History of the (Irish affairs), U:150

United Kingdom, History of the (The rise of the Labour Party), U:150

United Kingdom, History of the (The United Kingdom today), U:153

Uberal Party of Australia, L:204 Australia, History of (Australia since 1960), A:823

Australia, History of (Building a nation),

Australia, History of (Conscription for overseas service), A:B18 Australia, History of (Menzies returned), A:822

Australia, History of (The early Commonwealth), A:817 Australia, History of (The Petrov afffair), A9822

Liberalism, L:204 Political science, P:654

Liberation theology

Roman Catholic Church (In Latin Americal, R:343

Liberator, The [newspaper] Abolition movement (In the United States), A:13

Liberia, L:204 with picture and map Flag picture on, F:201 Merchant navy, M:359 Ship (Merchant fleets of the world),

World War II (table: The Allies), W:381 Liberty Bell, L:209 with picture

Bell (Famous bells), B:227 Liberty

Freedom, F:433 Liberty Enlightening the World See Statue of Liberty

Liberty Party Abolition movement (In the United States), A:13

Liberty ship Ship (General cargo ships), S:376 Liberty, Statue of

See Statue of Liberty Liberty (poem by Thomson)

Thomson, James, T:224 Libido, L:209

Libra (astrology), L:209 with picture Librarian Library, L:210 with pictures

Library, The [poetry by Crabbe] Crabbe, George, Ci:413

Library, L:210 with pictures See also list of Related Articles Database, D:40

Library of Congress, L:236 picture Library (Research libraries), L:223; (North America) L:228; (The United States) L:233

Washington, D.C. (Capitol Hill), W:56 Library of Congress Classification,

L:236 Libretto

Classical music (Operas), Ci:57 Musical comedy (The book), M:738 Орега, 0:457

Libreville [Gabon], L:237 Gabon, G:2; (History) G:4

Libya, L:237 with pictures and map See also list of Related Articles Africa (Ways of life in northern Africa), A:125; picture on A:127

Air force (Famous air battles), A:199 Chad (History), C:333 Flag picture on, F:201

Tripoli, T:409

Libyan Desert Egypt (The Western Desert), E111 with picture and map Libya (Land and climate), L:238

Licad, Cecile [Filipino concert pianist], L:240

Lice

See Louse Licence

Aviation (Aircraft manufacturing), A:879 Car (Learning to drive), C:164 Lease, L:140

Radio, Amateur, R:88 Licence tax

Taxation (Taxes on transactions), T:69 Licensing laws

Public houses (Ownership and control). P:835

Lichen, L:240 with pictures Antarctica (Plant life), A:440

Earth picture on, E:22 Fungi (How a fungus lives), F:485 Litmus, L:332

Plant (The tundra), P:546 Symbiosis, So:515 Tweed, T:479

Lichfield (England), L:241 Staffordshire (Places to visit), So:261

Lichfield, Patrick, Earl of British photographerl, L:241

Lichtenstein, Roy [American painter], L:241 Painting (Pop art), P:87 with picture

Pop art picture on, P:672

Lichtenstein's hartebeest Hartebeest, H:70

Lick Observatory, L:241 with picture Licorice (plant)

See Liquorice Liddicoatite Tourmaline, T:313

Lidgett, John Scott (English religious leaderl, L:241

Lidice (Czech Republic), L:241 Heydrich, Reinhard, H:188

Lido (resort) Venice, V:336

Lidocaine (drug) See Lignocaine

Lie detector, L:242 with picture Reflex action, R:179

Lie, Marius Sophus Norwegian mathematiciani, L:242

Lie, Trygve iNorwegian diplomati, 1:242

United Nations (The secretary-general), U:167 with portrait

Liébeault, Ambroise Auguste (French

doctor Hypnotism (Scientific studies), H:415

Lieber, Francis (German-American edi-

Encyclopedia (Today's encyclopedias),

Liebig, Baron von [German chemist],

Llebknecht, Wilhelm [German socialist]

Bebel, August, B:178

Liechtenstein, L:243 with map Europe (table), E:359 Flag picture on, F:208

German language, G:105 Lied von der Erde, Das symphony by

Mahler]

Insurance, 1:272

Investment, I:323

Life Is a Dream [play by Calderón de la namics), A:71 Mahler, Gustav, M:68 Aeroplane, A:95 with diagram Barcal Lieder [music], L:244 Airship (How airships fly), A:217 Calderón de la Barca, Pedro, C:33 Classical music (Song), Cl:57 Bernoulli's principle, B:260 Spanish literature (The 1600's), So:194 Song. So:40 Bird (In the air), B:341 with pictures Life jacket, L:252 with picture Liège (Belgium), L:244 Life of Christ, The [book by Farrar] Helicopter, H:139 Lien [law], L:244 Farrar, Frederic William, F:28 Kite (How kites fly), K:291 Bond (Kinds of bonds), B:444 Lift bridge Life of George Washington, The Judgment, J:158 Bridge (Drawbridges), B:564 with pic (book by Irving) Lleutenant Irving, Washington (Later writings), Police (Police around the world), P:641 Lift pump Life, L:245 with pictures 1:410 Pump, P:854 with picture Life of Hippocrates [book by Soranus] See also list of Related Articles Lift-slab construction Hippocrates, H:218 Fossil (Tracing the development of Building construction (Types of con-Life of Jane Austen [book by Kennedy] life). F:369 struction), B:628 Kennedy, Margaret, K:218 Island (How life develops on islands), Ligament [anatomy], L:255 Life of Lincoln [book by Howells] 1:423 Bone, **B:445** Howells, William Dean, H:335 Nitrogen cycle, N:223 with diagram Clam, Ci:50 Nitrogen (Nitrogen and life), N:222 Life of Nelson (poetry by Southey) Southey, Robert, So:122 Elbow, E:137 Ocean (Life in the ocean), O:391 with Foot, F:316 with diagram Life of Robert Rogers [book by Nevins] pictures; picture on 0:401 Human body (The skeletal system), Nevins, Allan, N:106 Water (Water in living things), W:70 H:351; diagram on H:354 Life of Samuel Johnson, The lbook by Life after death loint, J:136 Boswell] Australian Aborigines, A:838 Knee, K:297 Biography (The 1700's), B:301 Egypt, Ancient (The afterlife), E:124 Shell diagram on, \$:343 Funeral customs (History), F:484 Boswell, James, B:477 Skeleton (The human skeleton), \$460 Life of Sir William Osler, The (book by Religion (A doctrine of salvation), Sprain, So:239 Cushinal P-198 Tendon, T:140 Cushing, Harvey, Cl:505 Resurrection, R:243 Wrist, W:421 Roman Catholic Church, R:336 Life of the Bees, The work by Maeter-Ligan (wreckage) Tutankhamen, T:476 Flotsam, jetsam and lagan, F:236 Life and Death of Mr. Badman, The Maeterlinck, Maurice, M:39 Ligature, L:255 (book by Bunyan) Life of the Swindler (book by Quevedo) Bunyan, John, B:646 Quevedo, Francisco de, Q:27 Liger Life and Flowers [work by Maeterlinck] Spanish literature (The 1600's), So:194 Lion (Cubs), L:299 Light, L:256 with pictures Maeterlinck, Maurice, M:39 Life peer See also list of Related Articles Life and Memorable Actions of House of Lords, H:327 Astronomy (Using spectroscopy), Nobility (The creation of peerages), George Washington, The Ibook A:694 with pictures by Weemsl Camera, C:55 with diagrams Weems, Mason Locke, W:132 Parliament (The House of Lords), P:191 Candle, C:124 Life and Times of Frederick Dou-Peer of the realm, P:244 Chlorophyll, C:475 glass [book by Douglass] Life Peerages Act [1958] Colour (The relation between colour Douglass, Frederick, D:273 Peer of the realm (History), P:245 and light), Cl:192; (Mixing co-Life and Times of Michael K. book by Life preserver loured lights) Ci:196 Coetzeel See Life jacket Dark matter, D:35 South Africa (Arts), So:61 Life sciences Electric light, E:149 Life and Work of Sigmund Freud, Science, S:140 Electricity, E:170 with picture The book by Jones Life span Eye (Focusing), E:437; (Adaptation to Life expectancy, L:252 Jones, Ernest, J:139 light and dark) E:439 Life and Works of St. Paul, The book Life Studies [poems by Lowell] Fire (What fire produces), F:126 Gravitation (Einstein's theory of gravity by Farrar] American literature (Poetry), A:319 Farrar, Frederic William, F:28 tion), G:309 Life at the Top [book by Braine] Interior decoration (Developing a Interferometer, 1:281 Interior decoration (Colour and light) Braine, John, B:520 plan), 1:284 Life cycle, L:251 Life with Father [work by Day] See also list of Related Articles Day, Clarence, D:51 1.703 Invention picture on, 1:312 Ant, A:431 with picture Lifeboat, L:252 with picture Laser, L:69 with pictures Leaf (How a leaf makes food), L130 Butterfly (The life cycle of butterflies), Lifesaving Newton, Sir Isaac (Light and colour), B:687 with pictures Drowning, D:310 Generation, G:78 Surf lifesaving, So:434 with picture Ni185 Metamorphosis, M:377 with pictures Swimming (Water safety), So:484 Photography, P:444 Moth, M:640 Liffey [river], L:253 Physics, P:473; (Developments in the Life expectancy, L:252 with table Dublin, D:329 with picture; map on Africa (Population), A:121 1800's) P:476 Polarized light, P:636 with diagrams Technology (Higher living standards), Ireland (Rivers and lakes), 1:358 Joyce, James, J:152 T:86 Prism, P:788 with picture World (table), W:321 Lift (elevator), L:253 with pictures Radio telescope, R:88 Otis, Elisha Graves, O:516 Red shift, R:174 with picture Life insurance

Lift (physics)

Aerodynamics (Principles of aerody-

Relativity (Special theory of relativity)

Fuel (Solid fuels), F:478

ing up a body part) A:404

Arm, A:577 with diagram

Leg, L:153 with diagrams

Mammal (Skeleton), M:127

Artificial limb, A:611

Vertebrate, V:350

Greece (Mining), G:341 Sculpture (Light and shadow), S:191 Light-year, L:266 Lignocaine [drug], L:274 Astronomy (Astronomy terms), A:688; Light, Electric Lignum vitae [wood], L:275 (Stars) A:690 See Electric light Light, Francis (English trader), L:265 Ligroine Cosmic rays, Ci:370 Benzine, B:241 Distance, D:202 Light, invisible Liquie Galaxy, G:10 See Ultraviolet rays Grass (The grass plant), G:301 Solar system, So:26 Light, Speed of Ligurian Sea, L:275 Space exploration (Space between the Astronomy (A new view of the uni-Lij Iyasu stars), So:130 verse), A:699 Ethiopia (Menelik II), E:341 Light-emitting device Distance, D:202 Like a Rolling Stone (song) Electronics (Electronics and light), Foucault, Jean Bernard Léon, F:374 Dylan, Bob, D:364 Physics (Einstein and relativity), P:477 F:190 Likud bloc Lighter Red shift, R:174 Israel (Recent developments), 1:439 Barge, B:109 Relativity (Special theory of relativity), Shamir, Yitzhak, S:328 Lighthouse, L:266 with pictures R:191 Lilac, L:275 with picture Beacon, B:164 with picture Sun (Distance to the sun), So:409 Leaf pictures on, L:127 Electric power (Early developments), Tachyon, T:4 Lilienblum, Moshe Leib (Hebrew E:161 Light, William [Australian surveyor genwriter) Lighthouse of Alexandria erall, L:265 with portrait Hebrew language and literature (Mod-Seven Wonders of the Ancient World, Adelaide, A:42 ern Hebrew literature), H:130 S:282 with picture Kangaroo Island, K:188 Lilienthal, Otto [German inventor] Lighting, L:268 with pictures South Australia (Colonization), So:114 Aeroplane (First manned flights), A:76 See also list of Related Articles Light aeroplane Aviation (Beginnings), A:882 Film industry (Preparing to shoot), F:86 Aeroplane, A:88 Glider (History), G:208 Opera (Rehearsing a production), Light builb Liliyokalani, Lydia Kamekeha iqueen 0:462 Edison, Thornas Alva, E:78 of Hawail], L:275 Photography (Lighting equipment), Electric light, E:149; (The bulb) E:150 Hawaii (History), H:81 P:450 with pictures with diagrams Liljecrona's Home book by Lagerlöf Road. R:297 Electricity (Light), E:170 with diagram Lagerlöf, Selma, L:15 Theatre, T:198 Glass (Soda-lime glass), G:191; (Etch-Lille [France], L:275 Lighting ratio ing) G:195; (table) G:196 Lillee, Dennis [Australian cricketer], Photography (Intensity), P:445 Light (quantity of light), L:269; (Lighting 1:275 Lightness problems) L:270 Cricket picture on, Cl:432 Colour, Ci:199 Ught Cavalry (music by Suppél Lilleshall Abbey Lightning, L:271 with pictures and dia-Suppé, Franz von, So:430 Shropshire picture on, S:403 grams Light chamber Lille, Beatrice (English actress), L:276 Camping, C:68 Camera lucida, C:58 with picture with portrait Electricity picture on, E:165 Light crude Lillo, George (English dramatist) Franklin, Benjamin (Scientist), F:425 Petroleum (The uses of petroleum), Drama (European drama: 1660-1800), Life (Modern theories), L:249 with pic-P:336 D:294 Light-day ture Lilongwe [Maiawi], L:276 Ozone, 0:542 Solar system, So:26 Lily, L:276 with picture Light-emitting diode (LED) Plasma, P:574 See also list of Related Articles Thunder, T:232 with diagrams Clock (Electric clocks), Ci:86 Easter (Easter lilies), E:44 Weather (Storms), W:116 with picture Electric light (Other sources of electric Easter fily, E:46 Lightning bug light), E:151 Mariposa lily, M:211 with picture Ught hydrocarbons See Firefly Lily of the valley, L:276 with picture Lightning conductor, L:274 Natural gas liquids, N:46 Franklin, Benjamin (Scientist), F:425 Lily, Water Light intensity See Water Illy Lightning (Protection from lightning), Photography (Intensity), P:445 Lim Bo Seng [Chinese major general], Light interferometer Lightning Ridge [Australia], L:274 with L:277 interferometer, 1:281 Lim Boon Keng [Chinese doctor], L:277 Light lists picture Lima bean, L:278 Lighthouse (Identifying lighthouses), Lightning storm Bean (Kinds of beans), B:166 Camping, C:68 L:266 Lima (Perul, L:277 with picture Ught meter, L:265 Light-sensing device Peru, P:307, P:307; (Housing) P:310 Electronics (Electronics and light), Photography (Lighting equipment), with picture P:450 with pictures Limavady [Northern Ireland], L:278 Lightvessel, L:274 with picture Limb (anatomy) Photography (Capturing light rays), Lightweight Animal (Adaptations for moving Boxing (Weight classes), B:494 P:442 about), A:396 with pictures; (Giv-Light show

Lignin, L:274

Lignite, L:274

W:300

Coal (Uses of coal), Ci:121

Laser (Scanning), L:71; picture on L:69

Light That Failed, The lbook by Kip-

Kipling, Rudyard (His works), **K:286**

Nuclear energy (Power reactors),

light water reactor

Forest products (Lignin products),

Wood (The composition of wood),

N:324

voyage), T:50 Limnology, L:283

Biology (table), B:305

Lindisfarne [island], L:289 with picture Limoges [France] Limb [astronomy] Northumberland (Places to visit), Northumberland Porcelain (French porcelain), P:689 Moon (Rotation), M:590 Lindrum, Walter [Australian billiards Limonite, L:283 Limb-girdle muscular dystrophy Muscular dystrophy, M:717 Iron and steel (Kinds of iron ore), 1:388 playerl, L:290 Lindsay, David Australian explored Mars (Surface), M:221 Limbic system L:290 Brain (In producing emotions), B:516 Limpet (sea animal), L:283 with picture Lindsay, Howard [American play-Emotion (Early theories about emo-Animal picture on, A:394 tion), E:230 Shell (Univalves), S:343; picture on wrightl, L:290 Lindsay, Norman [Australian artist] 8:344 Limbo (dance) Trinidad and Tobago (Culture), T:405 Limpopo River, L:283 Lindsay, L:290 South Africa (Rivers), So:63 Lindsay, Sir Daryl [Australian artist] Limbo (religion), L:278 Lin Biao (Chinese political leader), L:283 Lindsay, L:290 Limbourg, Pol de [French painter], with portrait Lindsay, Sir Lionel (Australian artist) L:279 Lindsay, L:290 Europe picture on, E:387 Lin Piao Lindsay, Vachel [American poet, 1200] Middle Ages picture on, M:445 See Lin Biao Lin Yutang (Chinese scholar), L:283 with portrait World, History of the picture on, Linacre, Thomas (English physician), American literature (Realist poetry), W:342 Lime [chemical], L:279 Lindsay of Birker, Lord (Scottish See also list of Related Articles Lincoln [England], L:284 scholarl, L:290 Lincolnshire picture on, L:287 Acid rain, A:24 Line Lincoln, Abraham (U.S. president) Calcite, C:23 Fishing (Fishing equipment), F:182 See also list of Related Articles Water (Other processes), W:78 Painting, P:36 with picture Abolition movement (in the United Lime [fruit], L:279 with picture Photography, P:444 Lime (tree), L:280 with picture States), A:13 Sculpture (Form and treatment), S:191 Basswood, B:144 with picture Booth, John Wilkes, B:464 Line [geometry], L:291 Lime saltpetre Dixle [song], D:215 Gettysburg Address, G:144 with pic-Line carving Saltpetre, S:58 Woodcarving, W:303 Lime soda process ture Water softening, W:92 Illinois (History), I:31 Line caster Limerick [Ireland], L:280 with pictures Printing (Typesetting), P:781 Pennsylvania (History), P:264 and map Reconstruction (Lincoln's plan), R:162 Line engraving Photoengraving and photolithography, Arms picture on, A:587 Scuipture (American scuipture), S:214 Limerick (poetry), L:282 Washington, D.C. (Ford's Theatre), P)436 Lear, Edward, L:137 Line graph W-56 Graph, G:299 Poetry (table), P:611 Lincoln Cathedral [England] Limerick, Treaty of, L:282 Lincolnshire (Places to visit), L:288 with Line Islands, L:291 Boyne, Battle of the, B:503 Line level Limestone (rock), L:282 with pictures Level, L:196 Lincoln Memorial Line of Demarcation, L:291 with map See also list of Related Articles Washington, D.C., W:56 with picture Latin America (European discovery Cave (How caves are formed), C:283 Lincoln's Inn (London) and exploration), L:87 with picture inns of Court, I:237 Earth picture on, E:26 United Kingdom, Legal systems of the Line of force Electric generator (A simple generation Iron and steel (Raw materials), 1:390 (The legal profession), U:156 Lake (How lakes are formed), L:17 Lincolnshire (England), L:287 with pictor), E:146 Electric motor (Parts of an electric Ooze, 0:454 ture and map motor), E:153 Protozoan (Importance), P:818 See also list of Related Articles Magnetism (Magnetic fields), M255 Rock, R:307; (Organic sediments) Arms picture on, A:586 Line of latitude R:308 with picture Lind, James Map (Geographic grids), M:187 Limestone upland Vitamin (History), V:412 Line of longitude Wiltshire (Land regions), W:266 Lind, Jenny (Swedish soprano), L:288 Map (Geographic grids), M:187 Limewater Anderson, Hans Christian, A:352 Lime [chemical], L:279 Line of position Lindbergh, Anne Morrow (American Navigation (Piloting), N:52 Limit [mathematics] poet], L:288 Line orienteering Calculus (Differential calculus), C:25 Lindbergh, Charles Augustus (Ameri-Orienteering, 0:497 can aviatorl, L:288 with picture Limitation of armaments Line reproduction Disarmament, D:186 Aeroplane (Fliers of the golden age), Printing, P:781 Limitations, Statute of See Statute of limitations Line segment Kidnapping, K:244 Set theory (In geometry), S:277 Limited company, L:282 Lindbergh, Anne Morrow, L:288 Linear accelerator, L:291 Cancer (Radiation therapy), C:122; plc Business, B:673 Linde, Carl von [German inventor] Limited presidency [government] Liquid air (Making liquid air), L:304 ture on C:118 President, P:764 Particle accelerator, P:205 with pic Refrigeration (Compression and abture; (Kinds of accelerators) P-206 Limited war sorption systems), R:185 War, W:34 Linden [tree] X rays (How X rays are produced), Basswood, B:144 with picture Limmen [ship] Tasman, Abel Janszoon (The second Lime, L:280 X:431

Lindenmann, Jean | Swiss microbiolo-

qist]

Interferon, 1:281

Linear B [writing]

V:338

Ventris, Michael George Francis,

Unklater, Eric (Scottish writer), 1:295

Scottish literature (After 1900), S:177

Lothian Region (Places to visit), L:396

Unnaeus, Carolus (Swedish naturalist),

Blology (The origins of scientific classi-

Botany (The development of modern

Classification, Scientific (Development

of classification), Ci:68

Museum (Museums of the 1700's),

Science (The Age of Reason), S:147

with portrait

Unithgow [Scotland]

Twinflower, T:481

L:295 with portrait

fication), B:306

botany), B:480

Entomology, E:297

Twinflower, T:481

Linnaea

Interior decoration (Floor coverings), Linoleum-block printing See Block printing Linotype (printing), L:296 with pictures Book (The 1800's), B:457 Communication (In the late 1800's), CI:232 Mergenthaler, Ottmar, M:364 Newspaper (Setting the type), N:182 Printing (Hot-metal typesetting), P:781 Type (History), T:484 Linseed oil, L:297 Flax, F:222 Linoleum, L:296 Oil (Fixed oils), 0:419 Linstead, Sir Reginald Patrick [British chemistl, L:297 Unt Cotton (Uses of cotton), Cl:381 Building construction (Beams, girders, and columns), B:627 Linters Cotton (Uses of cotton), Cl:381 Linton, Ralph | American anthropologist), L:297 Linum usitatissimum Flax, F:222 Lion, L:298 with pictures ture; picture on A:385 picture Mammal picture on, M:136 Lion [astrology] Leo, L:176 Lion fighting a buil (sculpture) ture Lion of Lucerne (sculpture) Lucerne, L:411

Zoology (History), Z:506

See Linnaeus, Carolus

Linnet, L:295 with picture

Cork (Uses), Ci:356

Linnell, John [furniture maker]

Adam (Country houses), A:29

Linné, Karl von

Linoleum, L:296

Animal (Home ranges), A:409 with pic-Animal (Teeth and jaws), A:399 with Sculpture (Kinds of sculpture), S:190; (Middle Eastern) S:194 with pic-Swiss Guard, So:490 Lion of the Punjab Ranjit Singh, R:136 Lion tamarin Tamarin, T:18 Lionel [Duke of Clarence] Ireland, History of (Failure of the conquest), 1:370 Lionfish Fish picture on, F:151 Lions Clubs, International Association of, L:301 Lip [anatomy] Mouth, M:677 with diagram Lip [botany] Orchid (Parts of orchids), 0:489 Lip reading, L:302 Deafness (Special aids and communi-

cation techniques), D:57 Lipase [enzyme] Digestive system (In the small intestine). D:172 Enzyme, E:310 Stomach (The stomach's work), So:334 Lipchitz, Jacques (Russian-born sculptorl, L:302 with picture Lipid, L:302 Cell (Membranes), C:295 Cholesterol, C:478 Human body (Chemical elements and molecules), H:350; (Cells and tissues) H:350 Life, L:249 Oil, 0:419 Lipizzan horse Horse, H:288 with picture Lipoma Skin (Tumours), S:470 Tumour, T:438 Lipoprotein Chloresterol, C:478 Lippershey, Hans [Dutch optician] Invention (The Age of Reason), 1:316 Telescope, T:112 Lippi, Filippino [Italian painter], L:303 Lippi, Filippo (Italian painter), L:303 with picture Lippmann, Walter (American Journalist], L:303 Lippoid, Richard [American sculptor], L:303 Sculpture (Sculpture as artistic expression), S:189; picture on S:187 Lipstick on Your Collar [play by Potter] Potter, Dennis, P:721 Lipton, Sir Thomas Johnstone (Scottish-born businessmanl, L:304 Liquefaction Coal (Coal conversion), Cl:132 Gas [fuel] (Storing gas), G:54 Gas [matter] (How gases behave), G:58 Synthetic fuel, So:518 Liquefied gas extinguisher Fire extinguisher, F:135 Liquefled natural gas (LNG) Fuel (Gas fuels), F:478 Liquefied natural gas (LNG) carrier Tanker, T:29 with picture Liquefied petroleum gas (LPG) Butane and propane, B:676 Cooker (Gas cookers), Cl:332 Fuel (Gas fuels), F:478 Gas (Gas In the home), G:49 Natural gas liquids, N:46 Petroleum (Petroleum as a fuel), P:337 Range (Gas stoves), R:134 Liqueur Alcoholic beverage, A:238 Liquid, L:304 See also list of Related Articles

Cohesion, Cl:155

Hydraulics, H:398

Matter, M:264

Liquid crystal, L:305

lon (ions in liquids), 1:326

Liquid air, L:304 with diagram

Gas. G:58

L:307

Antiseptic (History), A:464

Nitrogen (Uses of nitrogen), N:222

Medicine (Introduction of antiseptic Lithium cell Liquid-CFC Freezing Battery (History), B:156 Food, Frozen, F:303 surgery), M:317 with picture Lithium hydroxide Liquid-cooled engine Sterilization, So:318 Space exploration (Breathing), Social Listing [mathematics] Petrol engine (Cooling), P:332 Permutations and combinations Lithography Liquid crystal, L:305 with picture Daumler, Honoré, D:42 (Counting permutations), P:286; Clock (Electric clocks), Ci:86 (Solving combination problems) Graphic arts, G:300 Electric light, E:151 Watch (Electronic watches), W:66 with P:206 Offset picture on, 0:416 Liszt, Franz (Hungarian pianist), L:307 Printing (Printing by offset lithogra-**Dictures** Liquid crystal display with portrait phy), P:783 Electronics (Electronics and light), Classical music (The romantic era). United States, History of the (Cultural CL51 change), U:248 E:190 Litany (religion), L:308 Lithophile Liquid crystal L:305 Geochemistry, G:86 Litchfield Shire (Australia) Television (Future improvements), Northern Territory (Government), Lithopone Barium, **B:110** N:279 Liquid fertilizer Lithosphere Litchi (tree), L:308 with picture Fertilizer (Production and sale), F:60 Atlantic Ocean (The ocean bed), A/76 Liquid fire Literacy Continental drift, Cl:316 Africa (Education), A:133 See Flame thrower Earth (The shaping of the continents), Liquid fuel Europe (Education), E:367 E:25 with picture Fuel, F:478 Illiteracy, 1:32 Liquid helium Reading (The importance of reading), Geophysics, G:99 Hydrosphere, H:408 Helium (Properties), H:144 R:150 Plate tectonics (Structure of tectoals Liquid-in-glass thermometer Literary agent plates), P:584 Thermometer, T:215 Publishing (Acquiring the manuscript), Liquid-metal-cooled fast breeder Lithuania, L:329 reactor Writing (Freelance markets), W:422 Baltic States, B:69 Belarus (Lithuanian, Polish, and Rus-Nuclear reactor (The coolant), N:334 Literary award sian rule), B:210 Liquid oxygen (Lox) Caldecott Medal, C:32 Flag picture on, F:208 Liquid air, L:304 Nobel Prizes (Nobel Prizes for litera-Ukraine (Lithuanian and Polish rule), Oxygen (Chemical properties), 0:537 ture), N:232 (Other uses of oxygen) 0:538 Pulitzer, Joseph, P:851 U:12 Space exploration (Space exploration Literary criticism Vilnius, V:394 World War II (The Invasion of the St terms), So:130; (Overcoming grav-Criticism, Ci:442 viet Union), W:387 ity) So:133 French literature (Realism), F:449 Litmus (chemistry), L:331 Liquid paraffin Greek literature (Philosophical litera-Litre [unit of measure], L:332 Mineral oil, M:489 ture), G:357 Metric system (Volume and capacity Liquid petrolatum Literary History of Ireland, A [book by measurements), M:386 with pic Mineral oil, M:489 Hyde] tures; (table) M:388 Liquid-propellant Hyde, Douglas, H:394 Guided missile (The engine), G:407 Literary Portraits book by Sainte-Litter Poultry (Raising poultry), P:726 with diagram Rocket, R:320 with picture Little Abaco [island] Sainte-Beuve, Charles Augustin, \$:47 Bahamas (Land and climate), B:29 Liquid solution Literature, L:309 Little Big Man [film] Solution, So:33 See also list of Related Articles and the Hoffman, Dustin, H:240 Liquid waste Arts or Literature sections of spe-Little Bighorn, Battle of Waste disposal, W:65 cific country articles Crazy Horse, Ci:419 Liquidambar (tree), 1:305 Ballad (Ballads and literature), B:45 Custer, George A., Ci:506 Llauor Criticism, Cl:442 Little Bush Maid, A book by Bruce Alcoholic beverage, A:237 Impressionism (Music, literature, and Bruce, Mary Grant, B:596 Liquorice [plant], L:306 with pictures sculpture), 1:47 Little Clay Cart, The [play by Kalidast Lira [money], L:306 with picture Romanticism (Romanticism in litera-Drama (India), D:296 Money picture on, M:547 ture), R:360 Little Colonel, The [film] Liripipe Literature and Western Man [book by Temple, Shirley, **T:138** Clothing (Western Europe), Ci:101 Priestley! Priestley, John Boynton, P:776 Little Dipper Lisbon [Portugal], L:306 with picture See Ursa Major and Ursa Minor Portugal, P:698; picture on P:701 Literature for children, L:317 Little Dorrit book by Dickens Dickens, Charles (Dickens life), Dils, Lisburn [Northern Ireland], L:306 Caldecott Medal, C:32 Lismer, Arthur [Canadian artist] Writing (Literature for children), (The second phase) D:161 Group of Seven, G:385 W:422 Little England beyond Wales Litharge, L:328 Lisping, L:307 Dyfed (Language), D:363 Little Foxes, The [play by Hellman] Lithgow [Australia], L:328 List System American literature (Drama), A:318 Proportional representation, P:810 Lithification Listed companies Rock (Clastic sediments), R:308 Hellman, Lillian, **H:145** Stock exchange, So:330 Lithium-6 Little Hotel, The book by Stead Nuclear weapon (Thermonuclear Lister, Sir Joseph [British surgeon], Stead, Christina, So:307 Little House in the Big Woods book weapons), N:335

Lithium (element)

Ligature, L:255

Flame test, F:218

Johnson, Samuel (Later years), J:134 Little Women [film] by Wilderl Livestock, L:337 with pictures Cukor, George, Cl:488 Wilder, Laura Ingalls, W:250 See also list of Related Articles Little Island, The [book by MacDonaid] Littleborough [England] Agriculture (Specialized livestock pro-Nottinghamshire (Places to visit), Weisgard, Leonard, W:142 duction), A:165; (Improved plant N:307 Little Karoo [tableland] and livestock breeding) A:175 Littlepage Manuscripts, The book by Karoo, **K:200** South Africa (The Cape Mountains Re-Cooperl Cooper, James Fenimore, Cl:336 gioni, So:63 Littlest Rebel, The [film] Western Cape (Land and climate), Temple, Shirley, T:138 W:184 Littlewood, Joan British theatre direc-Little Learning, A (book by Waugh) Pedigree, P:241 torl. L:332 Waugh, Evelyn, W:103 Littoral zone rock platform, L:332 Little Lord Fauntieroy (book by Bur-Livestock feed Liturgical drama (drama) Drama (Medieval drama), D:288 Burnett, Frances Hodgson, B:662 Feed, F:48 Liturgy ireligion), L:332 Little Men [book by Alcott] Cathedral (Organization of a Cathe-Aicott, Louisa May, A:240 dral), C:260 Little Mermald, The isculpture Living fossil Eastern Catholic Churches, E:47 Copenhagen (The city), Ci:339 Protestantism, P:815 Little Metalmark Roman Catholic Church, R:336 Butterfly picture on, B:683 Liu Bang [Chinese emperor], L:333 Little Minister, The (book by Barrie) Han dynasty, H:38 Barrie, Sir James Matthew, B:119 Living in space Liu Pang Little Miss Marker [film] See Liu Bang Temple, Shirley, T:138 Liu Shaoqi (Chinese political leader), Little Organ Book (music by Bach) Bach, Johann Sebastian (The Third Pe-L:333 Liu Shauil rlod), B:17 Living standards See Liu Shaoqi Little Ouse [river] Live-forever Cambridgeshire (The land), C:50 Living things Houseleek, H:328 Little penguin See Life Live load Penguin, P:258 Living will, L:339 Building construction (Parts of a build-Little Plain ing), B:626 Hungary, H:378 Live oak, L:333 with picture Little Pleasures, No. 174 [painting by Oak (Kinds of oaks), 0:372 Kandinsky) Wain, John, W:5 Liver (anatomy), L:333 Kandinsky, Wassily, K:184 See also list of Related Articles Painting (Expressionism), P:80; picture Blood (Transporting nutrients and wastes), B:396 with diagram; (De-Little Pretty Pocket-Book, A (book by struction of worn blood compo-Newberyl nents) B:398 Newbery, John, N:176 Cell (Death of a cell), C:298 Little Prince, The book by Saint-Circulatory system (in nutrition), Cl:8 Cirrhosis, Ci:14 Saint-Exupéry, Antoine de, S:33 Gland (table: Exocrine glands), G:183 Little Princess, A (book by Burnett) Hepatitis, H:157 Burnett, Frances Hodgson, B:662 Human body (The small intestine and Little Richard large intestine), H:355 Rock music (The emergence of rock "n" roll), R:311 Liver cancer L:98 Little Sisters of the Poor, L:332 Cancer, C:120 Livorno [Italy] Convent, Cl:318 Liver spot Leghorn, L:155 Skin (Skin colour), S:470 Little spotted kiwi Liverpool (England), L:335 with picture Kiwi, K:294 Merseyside (Places to visit), M:368; Little St. Bernard picture on M:367 Saint Bernard Passes, S:30 Liverpool Plains (Australia) Little Tea, A Little Chat, A book by Oxley, John (Exploring the Macquarie), 1:99 O:537 with picture Stead, Christina, So:307 Liverpool Road railway station Little tern Manchester (Places to visit), M:144 Tern, T:157 Liverpool, Earl of [British statesman], Little Tibet

L:336

Hepatica, H:156

by Johnsonl

Liverwort, L:336 with picture

Biography (The 1700's), **B:301**

Livery companies, L:337

Jammu and Kashmir (People), J:24

Little Women (book by Alcott)

Alcott, Louisa May, A:239

novel), A:311

Peter Pan, P:326

Little White Bird, The Iwork by Barriel

American literature (The sentimental

Animal husbandry, A:418 Brucellosis, 8:597 Famine (Effects of famine), F:25 Meat processing (Marketing of livestock), M:299 Salt picture on, S:57 Alfalfa (Uses of alfalfa), A:246 Living Buddha (king of Mongolia) Mongolia (History), M:561 Prehistoric animal (Interpreting fossil evidence), P:749 Living Free (book by Adamson) Adamson, Joy, A:32 Space exploration, So:135 with pic-Living Reed, The (book by Buck) Buck, Pearl S., B:608 See Standard of living Death (The right to die), D:59 Living World of Shakespeare, The Ibook by Wain! Livingstone, David [British explorer] Emin Pasha, E:229 Exploration (table), E:425; (The Interior of Africa) E:425 Lake Bangweulu, L:20 Malawi (History), M:80 Missionary (History), M:510 Stanley and Livingstone, So:277 with portraits and map Victoria Falls, V:367 Zambia (History), Z:488 Livius Andronicus [Greek dramatist] Latin literature (Early Latin literature), Livy [Roman historlan], L:339 History (The development of historical writing), H:225 Latin literature (The Augustan Age), Lizard, L:339 with pictures See also list of Related Articles Animal (Giving up a body part), A:404; (Courtship behaviour)A:405; (Providing shelter) A:408 Fossil (Understanding ancient plants and animals), F:369 Galapagos Islands, G:9 with picture Gecko, G:68 with picture Lives of the English Poets, The (work Glass lizard, G:202 with picture Goanna, G:221 with picture

Horned lizard, H:282 with picture Reptile (Lizards and snakes), R:231 with pictures Tegu, T:98 Lizard Point [England] Cornwall (Places to visit), Cl:360 England (Surface features), E:270 Ljubljana [city], L:341 Slovenia, S:492 Llama [animal], L:342 with picture Alpaca, A:281 Bolivia picture on, B:425 Peru picture on, P:307 Llancaiach Fawr (Wales) Glamorgan (Places to visit), G:180 Llandaff Cathedral Glamorgan picture on, G:180 Llandudno [Wales] Aberconwy, A:9 Gwynedd, G:437 Gwynedd (Places to visit), G:439 Llanelli [Wales], L:342 Lianfairpwiigwyngyli (Walesi, L:342 Llanos, L:342 Colombia (The Eastern Plains), Cl:172 with picture South America (The Central Plains), 50:92 Venezuela, V:331 with picture and Liantrisant [Wales] Glamorgan (Places to visit), G:180 Lliw Valley [Wales], L:342 Lloyd George, David British statesman], L:343 with portrait Conservative Party (History), Ci:305 Law, Andrew Bonar, L:116 United Kingdom (The 1900's), U:123 with picture; (table) 115 Versailles, Treaty of, V:349 World War I (The Paris Peace Conference), W:375 Lloyd Webber, Andrew (British composeri, L:343 Musical comedy (Musical comedy today), M:740 Lloyd, Clive (West Indian cricketer). 1:342 Lloyd, Harold Clayton (American comedian), L:343 with portrait Lloyd, Marie (British entertainer), L:343 with portrait Lloyd's [insurance association], L:343 Livn Brianne dam Dam (Some important dams), D:14 Lo Zuccone (sculpture by Donatello) Donatello, D:279 Load Building construction (Parts of a building), B:626 River (The mouth of a river), R:290 Weights and measures (Miscellaneous weights and measures), W:136 Load [electricity] Electric motor, E:153 Load arm Lever, L:196 Load-bearing-wall construction

Building construction (Types of con-

Load of Mischief (book by Grimes) Grimes, Martha, G:376 Load ring Balloon (Gas balloons), B:60 Loadstone Electricity (History), E:171 Taconite, T:5 Loam, L:344 Potato (Growing potatoes), P:719 Soil (Texture), So:21 Loan Bank (Making loans), B:92 Bond, B:444 Insurance (Life insurance), I:272 Loan contract Contract, Cl:317 Loan sharking Mafia, M:39 Lobachevskian geometry Geometry (Non-Euclidean geometry), Lobachevsky, Nikolai (Russian mathematicianl Geometry (Non-Euclidean geometry), G:97; (Rise of non idean geometry) G:98 Lobamba [Swaziland] Swaziland, So:457 Lobbying (government), L:344 Public relations (Methods), P:841 Lobe (anatomy) Brain (The cerebrum), B:511 Liver (Structure of the liver), L:333 with Lung (Parts of the lungs), L:414 with diagram Lobe-finned fish Amphibian (The history of amphibians). A:342 Prehistoric animal (Early forms of animal life), P:744 Lobe pump Pump, P:854 Lobelia, L:344 with picture Burkina Faso (People), B:654 Lobster, L:344 with pictures Animal (Regeneration), A:406; picture on A:402 Crustacean, Cl:465 Lobster Fishermen, Corea, Maine [painting by Hartley] Hartley, Marsden, H:71 Lobworm Lugworm, L:412 Local anaesthesia Anaesthesia, A:348 Dentistry (Modern dentistry), D:121 Drug (Anaesthetics), D:313 Lignocaine, L:274 Procaine, P:794 Surgery (Anaesthesia), Soc436 Local area network

struction), B:628

vice). E:160

Electric power (Providing reliable ser-

Load dispatcher

Load frame

Telephone (Lines for local calls), Trito (Telephone services) T:108 Balloon (Hot-air balloons), B:62 Local colour [literature] Cable, George Washington, Cr Harte, Bret, H:70 Local descent group Australian Aborigines (Social groups) A:838 Local government, L:346 Government (Regional and local corernment), G:273 **Local heating** Heating, H:128 Locai mean soiar noon Time (Measuring time by the sun), T:256 Local race Races, Human (The geographical-no theory), R:44 Local time Time (Local and standard time), T257 Localization of function Nervous system (Disorders of the ner vous system), N:85 Locard, Edmond (French doctor) Police laboratory (History), P:645 Locarno Conference, L:347 Germany (The Weimar Republic), G:135 Location Film industry (Assembling the produc tion team), F:84; (Filming on lott tion) F:86 with picture Loch Scotland (Rivers and lakes), 5:164 Loch Lomond (Scotland), L:347 with Strathclyde Region (Places to visit), So:347 with picture United Kingdom (Rivers and lakes), U:56 Loch Ness monster, L:347 with picture Folklore (Legends), F:289 Sea serpent, S:223 Lochaber [Scotland], 1:348 Lochalsh Skye and Lochaish, S:476 Lock [canal] Canal (Canal locks), C:108; diagram on Panama Canal, P:121 with picture map C:110 and diagram Saint Lawrence Seaway, \$:37 Lock (security), L:348 with pictures Yale, Linus, jr., **Y:438** Locke, Alain Leroy American educatorl, L:350 Locke, John [English philosopher], Age of Reason, A:156 Civil rights (Natural rights), Civil Declaration of Independence (Impor tance of the Declaration), D:72 Democracy (Democracy in Britain), Freedom (During the Age of Ressort)

Computer, Personal (Hardware)

E1:269 Local calls Itelecommunications

Cambodia (History), C:46

Londinlum

matics in the 1900's), M:260 Łódź [Poland], L:357 F:434 Logistics, L:362 Loeb, Richard A. (American public fig-Philosophy (Age of Reason), P:425; Army (Armies in the two world wars), (Empiricism) P:425 A:595 Darrow, Clarence Seward, D:37 Political science (Constitutionalism). Logo-syllabic Loess, L:358 Writing (Phonetics), W:423 P:654 Dust (Dust deposits), D:357 Sterne, Laurence, So:319 Logogram Ice Age (Effects of the ice sheets), 1:7 Locke, Sylvanus D. [American inventor] Writing (Phonetics), W:423 Loesser, Frank [American composer], Reaper, R:161 Logography 13358 Lockhart, John Glbson (Scottish au-Alphabet (The earliest writing), A:282 Loewe, Frederick (American com-Writing, W:423 Scottish literature (1800-1900), S:176 poser) Logperch [fish] Lerner, Alan Jay, L:184 Locklaw Darter, D:37 Musical comedy (The modern musi-Tetanus, T:165 Logrolling caj), M:740 Lockout (labour dispute), L:351 Birling, B:362 Löffler, Friedrich (German bacteriolo-Lockspelser, Sir Ben (British scientist), Logwood, L:363 gistl, L:358 Dye (Natural dyes), D:362 Lofoten Islands, L:358 lockwood, Douglas [Australian au-Lohengrin (opera by Wagner) Norway (Coast and islands), N:297 with Germany picture on, G:122 thorl, L:351 map Lockwood (ship) Wagner, Richard, W:2 Lofting, Hugh [English writer], L:358 Warship picture on, W:43 Loincloth (clothing) Log (instrument), L:358 Lockyer, Edmund (British soldier), Indian, American (Clothing), 1:139 Knot. K:306 Maya (Food, clothing and shelter), Navigation, N:51 Lockyer, Joseph Norman (English as-M:278 Log cabin, L:359 tronomerl, L:351 Loire River [France], L:363 with picture Logan, Mount Hellum, H:138 Lok Sabha (government) See Mount Logan India, Government of (Parliament), 1:96 Locomotive, L:352 with pictures Logan, Patrick (British soldier), L:360 Loke Wan Tho [Malaysian-born pho-See also list of Related Articles Logan, Sir William Edmond [Canadian Baldwin, Matthias William, B:39 with tographerl, L:363 geologisti, L:360 picture Loke Yew (Chinese-born Malayan busi-Mount Logan, M:660 Industrial Revolution (Railways), 1:215 nessman), L:363 Loganberry (fruit), L:360 with picture Railway, R:100 Loki [Norse mythology], L:363 Logarithms (mathematics), L:360 Railway, Model, R:113, R:114 Mathematics (Mathematics and the Balder, B:38 Mythology (The construction of the Rocket (locomotive), R:325 scientific revolution), M:260 world), M:761; (The end of the Locomotive crane Logbook, L:361 Crane, Cl:416 world) M:761 Locomotor ataxia Logging Lollta [book by Nabokov] Colonial life in America (Trade and in-American literature (Fiction and other Ataxla, A:704 dustry), Cl:185 Locoweed (plant), L:356 prose), A:320 Elephant, E:202 with picture Locust linsect), L:356 with pictures Nabokov, Vladimir, N:2 Petroleum (Well testing), P:345 Lollards (religious group), L:363 Cicada, Cl:1 Timber (From forest to saw mill), T:249 Grasshopper (Short-horned grasshop-Henry IV, H:152 Logic, L:361 pers), G:306 Wycliffe, John, W:425 See also list of Related Articles Lombard League (Italian history) Insect (Wings), 1:250; (Hibernation and Aristotle, A:568 Alexander III, A:243 migration) 1:258 with picture Mathematics (Branches of mathemat-Plant picture on, P:568 Frederick I, F:428 ics), M:256 Locust [plant], L:357 with pictures Lombard, Peter (Italian theologian), Philosophy, P:421 Honey locust, H:265 with pictures Russell, Bertrand, R:460 Scholasticism (The scholastic method), Lode deposit (earth) Science, \$:139; (Using logic) \$:141 Gold (How gold is formed), G:231 Set theory, S:274 with pictures and Loder's gazeile Lombardi family (Italian sculptors) diagrams; (In logic) 5:277 with di-Sculpture (Early Renaissance), S:211 Gazelle, G:66 Lombardi, Vince [American football Lodestone, L:357 agram Logic circuit Magnetism (Permanent magnets), coachl, L:364 with portrait Electronics (How electronic circuits Lombards (Germanic tribe), L:364 process information), E:190, E:191 Lodewycksz, Jan [Dutch navigator] Italy (The Middle Ages), 1:466 Logic gate Dutch explorers, D:359 Slovenia (History), S:494 Electronics (Terms used in electronlansz, Willem, J.29 Lombardy [Italy], L:364 ics), E:185 Crown (Iron Crown of Lombardy), Electronics (How electronic circuits Beaver, B:176 with pictures; (Building CI:456 process information), E:191 lodges) B:179 with picture; (Cut-Lombards, L:364 Logical positivism ting down trees) B:179 Lombardy poplar Metaphysics (Oplnions about metalodge, Henry Cabot [American politi-Poplar, P:681 with picture physics), M:379 cal leaderl, L:357 Lomé (Togo), L:364 Philosophy (Philosophy in the 1900's), lodge, Henry Cabot, Jr. American dip-Togo picture on, T:275 P:426 lomat), L:357 Lon Nol (Cambodian political leader), Lodge, Sir Oliver Joseph (English Positivism, P:709 L:364 Wittgenstein, Ludwig, W:283 physicistl, L:357

Mathematics (Philosophies of mathe-

Lodicule

Grass (The grass plant), G:301

Davis, Bette, D:46

Long, Crawford Williamson (American

England (The Roman conquest), E:273	doctorl, L:377	Long-woolled sheep
London (History), L:373	Drug (The drug revolution), D:318	Sheep, \$:340
London [work by Johnson]	Ether (chemistry), E:335	Wool, W:310
Johnson, Samuel, J:134	Surgery (History), So:439	Longbow
London (England), L:365 with pictures	Long Beach [U.S.A.], L:378	Archery (History), A:509
and maps	Long Beach (ship)	Longest Journey, The Ibook by Forster
See also list of Related Articles	Navy (Navles during the Cold War),	Forster, E. M., F:363
Christmas picture on, C:489	N:61	Longevity
Cockney, Ci:142	Long bone	See Life expectancy
England (Population and ancestry),	Bone (Structure of the bones), B:446	Longfellow, Henry Wadsworth Amer
E:263	Long Christmas Dinner, The lwork by	ican poetl, L:378 with pictures
Europe picture on, E:365	Wilder]	American literature (Poetry), A:314
Fires of London, F:139 with picture	Wilder, Thornton Niven, W:250	with portrait
Shakespeare, William (Early career in	Long Dash Skipper	Cajuns, C:21
London), S:301; (Shakespeare's	Butterfly picture on, B:682	December (Quotations), D:67
London) S:304 with picture	Long Day's journey into Night [play by	Finland (The arts), F:118
Smog, \$:500	O'Neili]	Evangeline, E:402
Underground railway, U:22 with pic-	American literature (Drama), A:318	Song of Hiawatha, So:41
tures	Drama (United States drama), D:299	September (Quotations), \$:263
London, Fires of	O'Neill, Eugene Gladstone, 0:452	Longford [Ireland], L:380 with map
See Fires of London	Long-distance calls	Arms picture on, A:587
London, Jack [American author], L:375	Telephone, T:108	Longford, Countess of British author,
with portrait	Long-distance lines itelecommunica-	L:380
London, John Griffith	tions	Longford, Earl of (British political
See London, Jack	Telephone, T:107	leader), L:379
London, Tower of	Long division [mathematics]	Longhorn
See Tower of London	Division (Long division), D:211	Cattle (Beginning of breeding), C278
London, Treaties of, L:375	Long-eared hedgehog	Western frontier life picture on, Will
London, University of, L:375	Hedgehog, H:132	Longhorns, The (book by Dobie)
London (Education), L:369	Long-eared owl	Doble, J. Frank, D:219
United Kingdom, Educational systems	Owi (Kinds of owls), 0:529	Longhouse
of the (Federal universities), U:98	Long-horned grasshopper	Sarawak picture on, \$:88
London Assurance (play by Boucicault)	Grasshopper, G:306	Longinus [Greek author], L:381
Boucicault, Dion, B:487	Long house	Criticism (History of literary criticism)
London (Ontario), L:375	Indian, American (Shelter), I:139; (Indi-	Ci:442
London Bridge, L:375 with picture	ans of the Northeast) 1:151; with	Longitude, L:381 with diagram
London (The Middle Ages), L:373	picture	Map (Geographic grids), M:187
London Calling [work by Coward]	Indonesia (Sheker), I:185	Meridian, M:364
Coward, Sir Noel, Ci:404	Long hundredweight	Longitudinal wave
London City Airport	Hundredweight, H:372	Waves, W:105 with diagram
Aviation (Future of the industry), A:880	Long Island [New York], L:378 with map	Longleat House [England]
London-Colchester Road	Long jump	Wiltshire (Places to visit), W:265
Roman roads, R:347	Athletics (Jumping events), A:711 with	Longnose gar (fish)
London Company, L:376	picture	Gar, G:31 with picture
United States, History of the (Virginia	Long March [Chinese history]	Longsightedness, L:382
and Maryland), U:238	China (Nationalist rule), C:462	Longstreet, James (American general
London Conference (1909)	Mao Zedong (His life), M:173	L:382
Right of search, R:276	Long Melford (England)	Longus [Greek author]
London Gazette, L:376	Suffolk (Places to visit), So:389	Greek literature (The Greco-Roman
London Merchant, The (play by Lillo)	Long-nosed bat	
Drama, D:295	Bat picture on, B:147	Age), G3566 Novel (Ancient Greek and Roman nice
London Metropolitan Police	Long-nosed butterfly fish	ratives), N:31
Police (United Kingdom), P:642	Fish picture on, F:163	Romance, R:348
London plane	Long Parliament (English history),	Longwall mining
Plane tree, P:532	L:378	Coal, Ci:128
London Protocol [1840]	See also list of Related Articles	Mining, M:494
Greece (Independence), G:342	England (The Civil War), E:278	Longyi [clothing]
London Zoo [England]	Long-playing record	Burran (M/ay of life), Bibb/
Zoo (Scientific research), Z:502	Record player (How gramophone rec-	Löngrot, Elias (Finnish doctor
Londonderry [Northern Ireland], L:376	ords are made), R:164	Finland (The arts), F1110
with picture and map	Long ship	Lonsdale Belt B498
Arms picture on, A:586	Ship (Viking ships), \$:366 with picture	
Northern Ireland (Way of life), N:262;	Vikings (The Vikings as shipbuilders),	
(The civil rights movement) N:275	V:390	chemist, L:382 with portrait
Lone wolf	Warship (History), W:46	Lonsdale, Lord (British Spor
Wolf (The life of a wolf), W:285	Long-tailed weasel	L:382
Lonely Life, The [book by Davis]	Weasel, W:109	L:382 Lonsdale, William [Australian adminis

Long ton

Ton, T:293

trator], L:382

Loofah

431

See Alsace-Lorraine Thomson, Virgil, T:224 Gourd, G:266 Lord chamberlain [office], L:384 Lorry Look and say instruction Truck, T:422 Lord chancellor, L:384 Reading, R:154 Law (Developments in Britain), L:115 LOTY Look Back in Anger [play by Osborne] Parrot (Kinds of parrots), P:200 Lord chief justice [office], L:384 Drama (Later British drama), D:301 Los Alamos National Laboratory, Lord Dunmore's War Osborne, John, O:509 Indian wars, I:174 Look Homeward, Angel book by New Mexico, N:118 Lord Howe Island [Australia], L:384 Los Angeles, L:387 with pictures and Wolfel with picture American literature (Realist fiction). Lord lieutenant (office), L:384 A:318 California (Economy), C:39 Lord mayor (title), L:385 Wolfe, Thomas Clayton, W:287 Hollywood, H:247 London (The Middle Ages), 1:373 Looking Glass War, The book by Le Los Angeles (airship) Lord of appeal Airship picture on, A:217 Carrél Parliament (The House of Lords), P:191 Le Carré, John, L:148 Los Negros Island Peer of the realm (Life peers), P:244 See Admiralty Islands Loom [weaving] Lord of the Flies (book by Golding) Cartwright, Edmund, C:221 Los Tres Reyes [ship] Golding, Sir William, G:242 Clothing picture on, Cl:93 Torres, Luis Vaez de, T:305 with pic-Novel (After World War II), N:314 Indian, American (Weaving), I:147; (in-Lord of the Rings, The book by Tolkdians of the Southwest) 1:159 Lost Child, The [painting by McCubbin] Invention (Economic needs), 1:310 Australia, Art and architecture of pic-Tolkien, J. R. R., T:288 Textile (Woven fabrics), T:171 ture on, A:783 **Lord Protector** [title] Weaving (Weaving on a loom), W:125 Lost Colony, L:394 with picture Cromwell, Oliver (The Protectorate), with picture Raleigh, Sir Walter (His expeditions), Ci:451 Wool picture on, W:313 R:127 England (The Civil War), E:278 Loon [bird], L:382 Lost Empires [book by Priestley] Lord spiritual Bird (How birds move), B:341 Priestley, John Boynton, P:776 House of Lords, H:327 Looper "Lost generation" Lord, Simeon [Australian merchant], Measuring worm, M:296 American literature, A:317 L:384 with portrait Loos, Adolf (Austrian architect) Lost Horizon [book by Hilton] Lord's Prayer, The work by d'Aulaires Architecture (Early modern architec-Hilton, james, H:205 D'Aulaire, D:43 Lost in the Funhouse (book by Barth) ture in Europe), A:532 with pic-Lord's Prayer (religion), L:385 Barth, John, B:121 **Lord's Supper** Austria (Architecture), A:861 Lost in the Stars [musical by Weill] See Communion Loose-fill insulation Weill, Kurt, W:141 Lords, House of Lost wax process [manufacturing] Insulation (Insulation for heat flow See House of Lords Cast and casting (Other types of castcontrol), 1:269 with picture Lorelei (Germany), L:385 Loosestrife, L:383 ing), C:232 with pictures Rhine River (The course of the Rhine), Lope de Vega Orissa (Local crafts), O:499 R:251 with picture See Vega, Lope de Sculpture (India), S:197 Lorentz, Hendrik Antoon [Dutch phys-López, Carlos Antonio Paraguayan po-Lot (Biblical figure), L:395 icistl, 1:385 Itical leader Abraham, A:15 Ether (physics), E:335 Asunción, A:702 Dead Sea, D:53 Physics (Einstein and relativity), P:477 Paraguay (Independence), P:166 Sodom and Gomorrah, So:16 Lorenz, Konrad Zacharias [Austrian López Portillo, José ipresident of Mex-Lothal naturalistl, L:386 icol, L:383 with portrait Gujarat (Places to visit), G:422 Lorenzini, Carlo Lophophore Lotharingia Collodi, Carlo, Ci:166 Bryozoan, B:605 Verdun, Treaty of, V:345 Lorenzo de' Medici Loquat [fruit], L:383 with picture Lothian Region (Scotland), L:395 with See Medici Loran [navigation], L:383 picture and map Lorenzo the Magnificent Aeroplane (Other navigational meth-See also list of Related Articles Florence (History), F:232 ods), A:103 Arms picture on, A:589 Italian literature (Humanism and the Log (Electronic navigation devices), Lötschberg Tunnel, L:397 Renaissance), 1:445 Lottery Igamblingl, L:397 Italy picture on, 1:466 Navigation (Electronic navigation), Lotto [game] Medici, M:305 N:54 with picture Bingo, B:296 Sculpture (Early Renaissance), S:211; Ship (Navigating a ship), S:382 Lotus, L:397 with picture (Michelangelo) S:212 with picture Lorca, Federico Garcia Lotus-eaters [Greek mythology], L:398 See Garcia Lorca, Federico Sixtus IV, S:458 Odyssey (Odysseus describes his wan-Lord ltitle}, L:384 Lorikeet derings), O:412 Parrot (Kinds of parrots), P:200 with Address, Forms of, A:41 Lotze, Rudolf Hermann (German phi-Baron, B:116 picture losopheri, L:398 Loris, L:386 with picture Feudalism, F:62 Lou Tresor dóu Felibrige (work by Lorna Doone (book by Blackmore) Freedom (The Middle Ages), F:435 Mistrall Blackmore, R. D., B:380 House of Lords, H:327 Mistral, Frédéric, M:516 Lorne, Marquess of igovernor general Middle Ages (Life of the people), Louangphrabang [Laos], L:398 of Canadal, L:386 M:449 Indochina (A new kingdom), 1:181; Nobility (Privileges of the peerage), Lorrain, Claude (French influence) 1:181

See Claude

Lorraine [France]

Loudness

N:236

Lord Byron [music by Thomson]

ireland (Rivers and lakes), 1:358

Wilde, Sir William Robert Wills,

Ireland (Rivers and lakes), 1:358

Lough Neagh [Northern Ireland], L:398

United Kingdom (Rivers and lakes),

Louis II, the German [king of Germany]

Germany (The breakup of Charle-

magne's empire), G:131

Crusades (Other Crusades), Ch464

Louis Philippe (king of France), £401

France (The revolutions of 1830 and

Exploration (East-West contact

Lake (The life of a lake), L:17

by Wilde]

W:249

Lough Leane [Ireland]

Ulster (Land), U:16

U:56

Louis II, Prince

Lough Derg [ireland], L:398

Lakes of Killarney, L:32

Louis I (king of France), L:398

Monaco (History), M:540

Verdun, Treaty of, V:345

resumes), E:419

Louis Napoleon

See Napoleon III

Charles X. C:352

Foreign Legion, F:341

1848), F:414

luly Revolution, 1:164

Louis VII (king of France)

CB463

Charles VIII, C:352

Estates-General, E:334

Estates-General, E:334

R:270

portrait

Swiss Guard, So:490

Anne of Austria, A:424

Lafayette, Marquis de, L:13

Louis XI (king of France), L:398

Louis XII [king of France], L:399

Louis XIII [king of France], L:399

Hairdressing (The 1600's), H:12

Crusades (The Second Crusade).

France (A period of wars), F:413

France (The age of absolutism), F:413

Richelieu, Cardinal (Becomes bishop),

R:270; (Rise to power in France)

R:270; (His influence in Europe)

Louis IX lking of Francel, L:398

Clothing picture on, Cl:102

Lough Corrib and Lough Mask [book

Maintenon, Marquise de, M:70 Nantes, Edict of, N:16 Succession Wars (The War of the Spanish Succession), So:378

Versailles, V:347 William III, W:255 portrait

Louis XV [king of France], L:399 with Du Barry, Madame, D:328 Pompadour, Marquise de, P:663

Louis XVI (king of France), L:400 with portrait

France (The French Revolution), F:414 French Revolution, F:451 Marie Antoinette, M:205

Tricolour, T:399

Louis XVII (king of France), L:400 Louis XVIII [king of France], L400 with portrait Bourbon (in France), B:488 France (The revolution of 1830 and 1848), F:414

Napoleon (Exile to Elba), N:22 Louis, Joe [American boxer], L:401 Louise de Marillac, Saint Roman Catholic Church (Catholic revi-

val in France). R:342 Vincent de Paul, Saint, V:395 Louise of Mecklenburg-Strelitz [Prussian ruler], L:401 Louisiana (U.S.A.), L:401

Cajuns, C:21 with pictures and map Louisiana Purchase, L:402 Jefferson, Thomas (First administration), J:80

Westward movement, W:198 Louisiana tanager Tanager, T:25

Louislana Territory lefferson, Thomas (First administration). I:80 Louisville (U.S.A.), L:402

Kentucky picture on, K:223 Lourdes (France), L:403 Bernadette, Saint, B:258

Lourenço Marques

Maputo, M:194

Louse (insect), L:403 with picture Relapsing fever, R:191 Skin (Infections), S:470 Louth [Ireland], L:403 with picture and

map Arms picture on, A:587 L'Ouverture, Toussaint See Toussaint L'Ouverture

Louvre [France], L:404 with pictures Louw, Nicolaas Petrus Van Wyk [South African writer], L:405 Love

with portrait

Emotion (Early theories about emotions), E:230 Empedocles, E:231

Sex, S:291 Love, Augustus E. H. (British physicist) Earthquake (How an earthquake spreads), E:34 Love, Nat [American cowboy], L:405

France (The age of absolutism), F:413

Love apple Tomato (History), T:292

Love [tennis] Tennis (Scoring), T:143

Love for Three Oranges, The music by Prokofiev] Prokofiev, Sergei Sergeyevich, P.799 Love in a Wood [play by Wycherley]

Wycherley, William, W:425 Love in idieness [play by Rattigan] Rattigan, Sir Terence, R:144 Love-in-the-mist [plant], L:406

Love is On the Air [film] Reagan, Ronald Wilson, R:159 Love-lies-bleeding Amaranth, A:297

Love Life (musical by Weill) Weill, Kurt, W:141 Love Me or Leave Me [film] Cagney, James, C:15

"Love Me Tender" [song] Presley, Elvis, P:770 Love Nest, The [book by Lardner] Lardner, Ring, L:65 Love of Four Colonels, The work by

Ustinov Ustinov, Sir Peter, U:286 Love of Zion (book by Mapu) Hebrew language and literature Mod ern Hebrew literature), H:130 Love potion Mandrake, M:151

Witchcraft, W:281 Love Song of J. Alfred Prufrock, The locem by Elioti American literature (Modernist poetry), A:317 Eliot, T. S., E:211

Love wave [physics] Earthquake (How an earthquake spreads), E:34 with diagram Lovebird, L:406 with picture

Parrot (Kinds of parrots), P:200 Loved One, The book by Waugh

Waugh, Evelyn, W:103 Lovelace, Richard (English lyric poet 1:40G Loveless, George [Australian writer] Australia, Literature of (Early prose),

A:830 Lovell "Health" House Neutra, Richard Joseph, N:103 Lovell, Sir Bernard (English astrono mer], L:406

Radio telescope (History), R:89 Lovelock Hairdressing (The 1600's), H:12 Lovelock, James British scientist Gaia, G:7

Lover, The (book by Yehoshua)

Hebrew language and literature [He brew literature today), H:131 Love's Labour's Lost play by Shake spearel Shakespeare, William, S:312

Weather (Air pressure), W:111; (table) Low W:111; (Pressure systems) W:114 with picture

Canada, History of (The royal province). C:98 Colbert, Jean Baptiste, **Cl:158** Dancing (The 1600's and 1700's), D:26

Louis XIV (king of France), L:399 with

Ballet (French leadership), B:55

Shropshire (Places to visit), S:403

Bearing (Plain bearings), B:173 Lower Egypt [Egyptian history] Wind (Synoptic-scale circulations), Petroleum (Other uses of petroleum), Egypt, Ancient (Beginnings), E:128; P:337 map on E:121 Low Church Lubrication system World, History of the (The Nile Valley), Anglicans (Doctrines), A:368 Car. C:156 W:334 Low Countries, L:406 Petrol engine, P:334 Lower Manhattan [painting by Marin] Belglum (The Middle Ages), B:221; Lucan [Roman poet] Marin, John, M:208 (Habsburg rule) B:221; map on Latin literature (The Imperial Period), Lower middle class City (The people), Ci:33 Netherlands (Early days), N:98; (Unifi-Lucas, George [American film produ-Lowestoft [England], L:408 cation) N:98 cerl. L:410 Löwig, Carl J. [German chemist] Low explosive Film industry (Changes in Hollywood), Bromine, B:585 Ammunition (The propellant), A:335 F:106 Lowlands with diagram Lucayo [people] North America (Pacific Ranges and Explosive, E:430 Bahamas (History), B:30 Lowlands), N:250 Low German Turks and Calcos Islands (History), Scotland (The Central Lowlands), S:163 German language (Dialects and Stan-T:469 Lowry, L. S. [British artist], L:409 with dard German), G:106 Luce, Clare Boothe [American play-Germany (Language), G:119 wright), L:411 with portrait Lowry, Malcolm (English author), L:409 Low-pressure gaseous-discharge Luce, Henry Robinson [American pub-Lowther, Hugh Cecil lisher], L:411 with portrait See Lonsdale, Lord Electric light (Gaseous-discharge Lucerne (plant) Lowveld lamps), E:150 Alfalfa, A:246 with pictures Northern Province (Land), N:277 tow-pressure sodium lamp Lucerne [Switzerland], L:411 Veld. V:325 Electric light (Gaseous-discharge Lucerne, Lake of lamps), E:150 See Lake of Lucerne See Liquid oxygen Low relief Lucia di Lammermoor lopera by Doni-Loyalists Relief, R:194 with picture See American Revolution low-sulphur coal Donizetti, Gaetano, D:266 Loyola, Saint Ignatius (Spanish reli-Coal (Coal as a fuel), Cl:121 Орега, 0:470 gious leaderl, L:409 Low-temperature refrigeration Luciani, Albino Canisius, Saint Peter, C:126 Refrigeration, R:186 John Paul I, J:130 Jesults (History), J:95 Low tide Lucifer (devil), L:411 Xavier, Saint Francis, X:432 Tide (High tides and low tides), T:242 Lucilius Gaius (Latin poet) LP record Latin literature (Early Latin literature), with picture and diagram High-fidelity system (History), H:197 Low, Frank J. (American physicist) Record player (How gramophone rec-COM Telescope (Infrared telescopes), T:115 Lucius Verus (Roman emperor) ords are made), R:164; (History) low, Sir David (British cartoonist), Sculpture (Roman sculpture), 5:208 with picture Recording industry (History), R:168 Bilmp, Colonel, B:387 Lucknow [India], L:411 LSD [drug], L:409 Uttar Pradesh (Places to visit), U:291 New Zealand (Arts), N:156 Brain (How drugs affect brain chemis-Lowchen [dog], L:406 Lucky Country, The book by Hornel try), B:517 Lowe, Robert [Australian writer] Horne, Donald, H:282 Drug abuse, D:322 Lucretius (Roman philosopher), L:412 Australia, Literature of (Early prose), Hallucinogen, H:24 Atom (Development of the atomic the-Lowell, Amy [American poet], L:406 Lu [symbol] ory), A:728 Lutetium, L:418 American literature (Modernist po-Atomism, A:731 Lu Xun (Chinese author), L:409 Latin literature (The age of Cicero), etry), A:317 Chinese literature (Modern Chinese litlowell, Francis Cabot American busi-L:99 erature), C:470 nessmanl, L:407 Materialism, M:254 Luanda (Angola), L:410 Industrial Revolution (Spread of the In-"Lucy" (prehuman ancestor) **Luang Prabang** Prehistoric people (Types of Ausdustrial Revolution), I:217 See Louangphrabang Lowell, james Russell (American poet), tralopithecines), P:751 with pic-Luapula River (Zambia) L:407 with portrait Lake Bangweulu, L:20 American literature (Poetry), A:314 Luddites [people], L:412 Luba [people], L:410 Holmes, Oliver Wendell (His life), Industrial Revolution (The working Africa (Eastern, central, and southern H:247 class), 1:215 kingdoms), A:150 June (Quotations), J:167 Riot (History), R:286 Zaire (Early days), Z:485 Launfal, Sir, L:105 Ludendorff, Erich Friedrich Wilhelm Lubber grasshopper May (Quotations), M:275 [German general], L:412 Grasshopper picture on, G:305 Lowell, Robert [American poet], L:408 Hindenburg, Paul von, H:208 Lubbock, Eric Reginald British politi-American literature (Poetry), A:319 World War I (The Eastern Front), cian), L:410 with portrait W:366; (The Battle of Verdun) Lubbock, John (British politician), L-410 Lower Carboniferous Period W:368; (The last campaigns) Lube distillate [petroleum] Earth, table on, E:30 W:373 Lower class Gas chamber, G:59 Ludhiana [India] Lübeck [Germany], L:410 Social class, So:2 Punjab (Places to visit), P:860 Lubitsch, Ernst | German-born film di-Lower Depths, The [play by Gorkil **Ludlow** (England) Gorkl, Maxim, G:261 rector), L:410

Russian literature (Late realism), R:499

Lubricant

Luna (satellite)

Satellite, Artificial (Important satellites):

Space exploration (The space race be-

oxide), B:394

Death (Defining death), D:58

Cough, Cl:391

tion), 0:414

Lutetium (element), L:418

Luther [play by Osborne]

Lymphatic system, L:426 Philippines (The main islands), P:380 Osborne, John, O:509 Thymus, T:234 Luther, Martin (German religious with picture Tonsil, T:296 Lvov [Ukraine], L:423 leaderl, L:418 with portrait Virus (Virus diseases in human be-See also list of Related Articles Lycanthropy ings), V:406 Werewolf, W:153 Catechism, C:258 Lymphoedema Christianity (The Reformation), C:485 Lycée Oedema, 0:412 France (Education), F:401 Eck, Johann, E:53 Lymphoid leukaemia Lyceum [ancient Greece], L:424 Germany (The Reformation), G:132 Leukaemia, L:195 Aristotle (Aristotle's life), A:567 with picture Lymphoid tissue Education (Ancient Greek education), Hymn (History), H:411 Lymphatic system, L:426 Peasants' War, P:238 Tonsil. T:296 Library (Greece), L:230 Predestination, P:741 Lymphoma Lyceum [organization], L:424 Reformation, R:180 Cancer (Cancers of the blood-forming Roman Catholic Church (The Reforma-Lychee and lymphatic systems), C:120; See Litchi tion), R:341 (Final diagnosis) C:122 Lycophyte Tetzel, Johann, T:166 Tumour, T:438 Plant, P:544 with picture Worms, Edict of, W:411 Lynch, John Irish politiciani, L:426 Lycopodium Zwingli, Huldreich, Z:510 Fianna Fáil, F:66 Club moss, Ck:115 Luther Burbank Company Lynching, L:426 Lycozyme Burbank, Luther, B:648 Lyndon B. Johnson Space Center Fleming, Sir Alexander, F:225 Lutherans (religious group), L:420 See Johnson Space Center Lycurgus (Spartan legislator), L:424 Catechism, C:258 Lyndsay, Sir David (Scottish poet), Lyddite [explosive], L:424 Norway (Religion), N:296 L:427 Lydia (Asia Minor), L:424 with map Protestantism (The conservative re-Scottish literature (1500-1700), S:176 Lye form movements), P:816 Lynen, Feodor (German chemist), L:427 Base, B:123 Religion (How the major religions are Lynn, Dame Vera [British singer], L:427 Caustic, C:281 organized), R:200 Lynx, L:427 with picture Olive (Harvesting and preparation for Religious life (Protestant churches), Animal (Breeding in captivity), A:413 market), 0:429 Caracal, C:184 with picture Sodium hydroxide, So:16 luthult, Albert John (Zuju chief), L:420 Fur (table), F:488 Lyell, Sir Charles (British scientist), African National Congress (ANC), Lyon [France], L:427 with picture 1:424 A:154 Lyon, Arthur Sidney (Australian jour-Evolution (Darwin's theory), E:412 Nobel Prizes (Peace), N:234 nalistl, L:428 Geology (Experimental geology), G:93 Lutine Bell, L:420 Lyon, Harry [American aviator] Science (Scientific advances of the Luton Englandi, L:420 Aeropiane (Fliers of the golden age), 1800's), S:148 Bedfordshire, B:181 Lyfy, John [English writer], L:424 Luttrell Psakter, 1:420 Lyons, Dame Enid (Australian politi-Drama (Elizabethan playwrights), Lutyens, Sir Edwin[English architect] cian], L:428 D:291 Architecture, [The Palladian Revival], Lyons, Joseph Australian politiciani, Novel (Later European narratives), A:555 L:428 with portrait New Delhi, (History), N:111 N:311 Lyophilization Lyme disease, L:424 Palladio, Andrea, P:105 Freeze-drying, F:439 lutyens, Elisabeth (British composer), Tick, T:239 Lyra (constellation), L:428 L:421 Lymph Lyre [musical instrument], L:428 with Cancer (How cancer develops), C:118 Lux lunit of measure) Human body (The lymphatic system), Foot-candle, F:317 Music (Plucked stringed Instruments), Light (The brightness of light), L:263 H:357 M:728 Lymphatic system, L:425 Lux Mundi [book by Gore] Lyrebird, L:429 with picture Oxford Movement, 0:532 Lymph node Bird (The Australasian realm), B:319; Luxembourg [city], L:423 Biopsy, **B:313** (Birds of Australia and New Zea-Blood (Formation of new blood com-Luxembourg icountryl, L:421 with picland) B:332 with picture ponents), B:396 ture and map Lyric poems [poetry] Gland (Glandlike structures), G:184 See also list of Related Articles Literature (Forms of Literature), L:313 Hodgkin's disease, H:240 Christmas, C:490 Lyric poetry Human body (The lymphatic system), Europe (table), E:359 French literature (Early French litera-Flag picture on, F:208 H:357 ture), F:445 World War II (table: The Allies), W:381; Lymphatic system, L:426 Greek literature, G:357 Scrofula, S:184 The invasion of the Low Coun-Poetry, P:609 Lymphatic system, L:425 with diagram tries) W:383 Lyrical Ballads (poetry by Coleridge Cancer (Cancers of the blood-forming Luxembourg Gardens and Wordsworthl and lymphatic systems), C:120 Paris picture on, P:180 Coleridge, Samuel Taylor (His life), Luxemburg, Rosa [German writer], with diagram Human body, H:357 L:423 Poetry (Romantic poetry), P:616 Luxor Lymphocyte Wordsworth, William, W:315 Blood (Protecting against disease), Egypt, Ancient (map), E:121 Lyrics Obelisk, O:378 0:396 Popular music (Characteristics of pop-Luzern Gamma globulin, G:26 ular music), P:682 See Lucerne Immune system (The immune re-Lyrics of Earth [poetry by Lampman]

sponse), I:41

Luzon iPhilippines), L:423

Lampman, Archibald, L:38 Lysander (Spartan military commander),

Lysenko, Trofim Denisovich (Russian biologistl. L:429

Lysergic acid diethylamide See LSD

Lysias (Greek orator), L:429 Lysippus [Greek sculptor], L:429 with

Lysistrata [play by Aristophanes] Aristophanes, A:567 Drama, D:287

Lysosome Cell, C:295

Lyte, Henry Francis (British clergyman), 1:430

Lytell Geste of Robin Hood Robin Hood, **R:303**

Lyttelton [New Zealand], L:430 with pic-

Lyttleton, R. A. [English astronomer] Earth (The birth of the solar system),

LZ-1

Airship (The Zeppelins), A:219

M (letter), M:1 with pictures M87 (galaxy)

Black hole (Evidence for black holes).

M16 rifle

Rifle picture on, R:275

M60 machine gun

Machine gun (Ground weapons), M:14 with picture

Ma Duanlin [Chinese scholar]

Encyclopedia (From the 1200's to the 1600's), E:240

Ma Yuan [Chinese painter], M:2 Painting (Chinese painting), P:49

Maas River

See Meuse River

Maastricht Treaty [1992]

Denmark (Recent developments), D:117

European Union (Formation of the European Union), E:400

Maazel, Lorin [American conductor], M:2

Mabinogion (book)

Mythology (Celtic mythology), M:760; (Welsh myths) M:760

Welsh literature, W:151

Mabo, Koiki (Aboriginal land rights campaigner, M:2

Mac . . .

Names beginning Mac are alphabetized as single words. Names beginning Mc appear after headings beginning Mb

Mac Naghten's Rule See M'Naghtens Rule Macadam (road surface) Industrial Revolution (Roads), 1:215

McAdam, John Loudon, M:285 Road (Paving), R:297; (In the Middle Ages) R:299

Macadamia nut [seed], M:2 with picfure

Macao (China), M:2

Portugal, P:698; (End of the empire) P:707

Macapagal, Diosdado (president of Philippinesl, M:2

Philippines, History of the (The era of Diosdado Macapagal), P:413

Macaque [animal], M:2 with picture Animal picture on, A:407

Barbary ape, B:104 with picture Primate picture on, P:777

Macaroni

Pasta, P:211

Macaroni wheat

Grass (Kinds of grasses), G:302 MacArthur, Charles (American play-

wrightl Hayes, Helen, H:91

Hecht, Ben, H:131 MacArthur, Douglas | American general], M:3 with picture

Japan (Allied military occupation), J:60 Korean war (The land war), K:330 Philippines (Japanese occupation),

P:411; picture on P:410

World War II (The South Pacific), W:397; (The liberation of the Philippines) W:399; picture on W:402

Macarthur, John [Australian settler]. Australia, History of (The New South

Wales Corps), A:800 Rum Rebellion, R:455 Squatters in Australia, So:250 Waterhouse, Henry, W:99

Macau

See Macao

Macaulay, Dame Rose [British writer], M:5

Macaulay, Thomas Bablington (British) historianl, M:5

Biography (The 1800's), B:302 Fourth estate, F:377

Horatius, H:277

Macaw, M:5

Bird picture on, B:331

Parrot (Kinds of parrots), P:200 Macbeth [king of Scotland], M:5

Macbeth [play by Shakespeare] Duncan I, D:348

Ghost, G:150

Macbeth, M:6

Shakespeare, William, S:319 Theatre picture on, T:190

MacBride, Sean Ilrish diplomati, M:6 with portrait

Nobel Prizes (Peace), N:234

Maccabee, Judah

See Judah Maccabee Maccabees [Bible]

Bible (The Apocrypha), B:275 Macclesfield (England), M:6

MacCool, Finn

See Finn MacCool

MacDiarmid, Hugh (Scottish writer) Scottish literature (After 1900), 8:177

MacDonald, Flora |Scottish public flourel, M:6 with picture

MacDonald, J. E. H. (Canadian painter) Group of Seven, G:385

MacDonald, James Ramsay British political leaderl, M:6 Labour Party (History), L:3

United Kingdom, History of the (The rise of the Labour Party), U:150 MacDonald, John D. American author.

M:7

MacDonald, Malcoim, M:7

Macdonald, Sir John Alexander (Canadian political leader), M:7 Canada, History of (Confederation), C:100:(Growth of the Dominion)

MacDonnell Ranges (mountains, Australial, M:7

Northern Territory picture on, N:283

Macdonough, Thomas |American naval officerl, M:7

MacDuff plaid

Tartan picture on, T:48 Mace, Jem (British boxer)

Boxing (From bare knuckles to gloves), R-498 Mace [spice], M:8

Nutmeg, N:361 with picture Spice, So:216

Mace [symbol], M:B Crown jewels, Ci:461

Mace (tear gas), M:7

Macedonia [country], M:8 Balkans (Recent developments), 8:44

Macedonia (historic region), Maß with

Alexander the Great, A:243 with map Exploration (The ancient Greeks), Edit Flag picture on, F:208

Greece, G:337 Rome, Ancient (History), R:377 Yugoslavia, Y:470; (Recent develop-

ments) Y:475 Macedonian language

Macedonia (country) (People), Mil **Macedonian** [ship]

Decatur, Stephen, D:65

Macfarlane Burnet See Burnet, Sir Macfarlane

MacGregor plaid

Tartan picture on, T:48 Macgregor, Robert

Rob Roy, R:300

Mach number

Aerodynamics (Shock waves and sorpli booms), A:72

Aeroplane (Supersonic aeroplanes), A:86

Mach, Ernst (Austrian physicist), M:10

Machado de Assis, Joaquim Maria (Brazilian author), M:10

Brazii (The arts), B:536

Latin-American literature (Realism). Machado, Gerardo (president of Cubal

Batista y Zaldívar, Fulgencio, B:153 Cuba (The Second Republic), Ci:481

Machete [knife], M:10

jungle, J:169 Machiavelli, Niccolò litalian philoso-

pherl, M:11 with portrait Drama (Italian Renaissance drama). 0.790

Italian literature (Humanism and the Renaissancel, 1:445

Political science (Secularism), P:654

Machine, M:11 with pictures See also list of Related Articles

Sculpture (Medieval and Renaissance sculptors), S:193

Machine age

Industrial Revolution (Spread of the Industrial Revolution), I:217

Machine, M:12

Machine forging Forging, F:361

Machine gun, M:13 with pictures Gatling gun. G:61 with picture World War I (A build-up of military might), W:363; picture on W:367

Machine tool, M:15 with pictures See also list of Related Articles Mass production, M:245 Tool (Metalworking tools), T:297 Toolmaking, T:297

Machinist

Machine tool (Advanced machine tool operations), M:17

Machu Picchu [Peru], M:18

Architecture (Pre-Columbian architecture), A:520

Peru picture on, P:315

Macintosh, Charles [English Inventor],

Rubber (The rubber industry begins), R:430

Waterproofing, W:100 Mackay [Australia], M:18

Mackellar, Dorothea (Australian poetl, M:18

Mackenzie Range

Rocky Mountains (Chief ranges of the Rockies), R:327

Mackenzie River, M:19 with map Mackenzie, Sir Alexander, M:19

Mackenzie, Sir Alexander (Canadian explorer), M:19

Canada, History of (Exploration of the West), C:99

Mackenzle River, M:19

Mackenzie, Sir Compton (Scottish writerl, M:19

Scottish literature (After 1900), S:177

Mackerel, M:19 with picture

Mackerras, Sir Charles (Australian conductorl, M:20 Mackey, Mick (irish hurler), M:20

Mackillop, Mary [Australian nunl, M:20 Mackinac Island [U.S.A.], M:20 with pic-

Mackinder, Sir Halford (English geog-

rapherl

Geopolitics, G:99

Mount Kenya, M:660

Mackinnon, Eleanor (Australian public figure), M:20

Mackintosh (clothing)

Macintosh, Charles, M:18

Rubber (The rubber industry begins), P-430

Waterproofing, W:100

Mackintosh, Charles Rennie (Scottish architect), M:20

Maclean, Alistair (Scottish writer), M:20 with portrait

MacLeish, Archibald [American poet], M:21

MacLennan, Hugh (Canadian author), M:21

MacLeod of Lewis plaid

Tartan picture on, T:48

Macleod, John James Rickard [Scottish physiologistl, M:21

Banting, Sir Frederick Grant, B:98 Insulin (History), 1:271

Nobel Prizes (Physiology or medicine), N:230

MacLeod, Joseph [Scottish writer] Scottish literature (After 1900), S:177

MacLiamm Micheál (Irish actor), M:21 MacLoughlin, Murtagh iking of Ulsterl Ireland, History of (Rival kings), 1:370

MacMahon, Maurice de French presidentl, M:21

MacManus, Seumas (Irish author), M(21

MacMillan, Donald Baxter American explorer), M:21 with portrait

Macmillan, Harold (British political leaderl, M:21 with portrait

United Kingdom (Economic recovery and collapse), U:153; (table) U:152

MacMillan, Sir Kenneth (Scottish choreographer], M:22 Bailet (Ballet in Europe), B:57

MacMillan plaid

Tartan picture on, T:48

MacMonnies, Frederick | American sculptor] Sculpture (American sculpture), S:214

MacMurrough, Dermot king of Leinsteri

Ireland, History of (The Normans In Ireland), 1:369

MacNeice, Louis British poetl, M:22 MacNeill, Eoin [Irish scholar]

Irish language (Late Modern Irish), 1:380

Macon (airship)

Airship (Between world wars), A:219

Maconochie, Alexander (Australian writer

Australia, Literature of (Early prose), A:830

Macpherson, James (Scottish author) Gaelic literature, G:7 Scottish literature (1800-1900), **S:176**

Macquarie, Elizabeth Henrietta lwife of Lachlan Macquariel, M:22 Macquarie, Lachlan (Australian political leader], M:22 with portrait

Australia, History of (The foundation of Australia), A:798; (From jail to colony) A:801

Hawkesbury, H:86

New South Wales (History), N:133 Oxley, John, 0:536

Rum Hospital, R:454

Squatters in Australia, So:250

Macquarie Harbour [Australia] Convicts in Australia (Convict life), Ci:323

Macquarle Island [Pacific Ocean], M:24 Macquarie River [Australia], M:24 Oxley, John, O:536

Macquarie Towns (Australia), M:24 Hawkesbury, H:86

Macramé [handicraft], M:24 with picture Rope (Natural-fibre rope), R:394

Macready, William Charles

Shakespeare, William (The 1800's), S:326

Macroeconomics

Economics, E:59; table on E:65

Macromolecule

Human body (Chemical elements and molecules), H:350

Life (The chemical basis of life), L:248 Molecular biology (The beginning of molecular biology), M:532

Macronutrients

Nutrients (Kinds of nutrients), N:363

Macrophage

AIDS (Cause), A:179

Blood (Protecting against disease), B:396 with pictures

Disease (Immune reactions), D:196 with diagram

Interleukin, 1:287

Lung (Other jobs of the lungs), L:415 Lymphatic system (Lymph nodes),

L:426; (Fighting Infection) L:426 Spleen, So:233

Macrophages

Immune system (Parts of the Immune response), I:39

Immune system (Parts of the Immune system), I:39

Immune system (The immune response), 1:39

MacSharry, Ray [Irish politician], M:24 MacTavish plaid

Tartan picture on, T:48

Macula lutea lanatomy!

Eye (The retina), E:437 with diagram

Macular degeneration

Blindness, B:388

Eye (Diseases of the retina), E:442

Macumba [religion] Brazil (Religion), B:535

Rio de Janeiro (People), R:281

Macwan, Joseph [Indian writer] India, Literature of (Dalit literature),

Mad Anthony Wayne

See Wayne, Anthony

Madagascar, M:24 with map and pictures

Antananarivo, A:435

Madonna and Child, The (sculpture by

Madonna and Child with Angels

Madonna Enthroned with Saints

[painting by Cimabue]

Cimabue, Giovanni, Ci:3

[painting by Giotto]

Gill)

Gill, Eric, G:160

Giotto, G:163

Madonna and Child picture on, M:33 Magazine [munitions], M:41 Flag picture on, F:201 Handgun (Types of handgun), H42 Madonna lily Madama Butterfly lopera by Puccinil Easter lily, E:46 Machine gun, M:13 Opera, 0:470 with picture Flower (Garden perennials), F:248 with Magdalena River Puccini, Glacomo, P:845 Colombia (The Andes Mountains), picture Madame Bovary [book by Flaubert] Ci:172 Lily. L:276 Flaubert, Gustave, F:222 South America, So:94 Madonna of Humility, The lpainting by French literature (Realism), F:449 Fra Angelicol picture on, F:381 Magdalene, Mary Novel (France), N:312 See Mary Magdalene Madonna of the Rocks [painting by Madame Charpentier and Her Chil-Leonardo da Vincil Magellan (space probe) dren [painting by Renoir] Leonardo da Vinci (Paintings), L:180 Space exploration picture on, Sould Renoir, Pierre Auguste, R:222 Venus (Surface and atmosphere), Madame Delphine [book by Cable] Madras [India], M:34 V:340 Cable, George Washington, C:7 Madras [textile] Magellan, Ferdinand [Portuguese navi-Madame Tussaud's Exhibition Antiqua and Barbuda (Clothing and gator], M:42 with pictures Tussaud, Marie Gresholtz, T:476 food), A:461 Balboa, Vasco Núñez de, B:37 Madang [Papua New Guinea], M:27 Madrasah Architecture (Islamic architecture). Exploration (table), E:421; (Magellans Madder [plant], M:27 globe ling expedition) E:422 Dye (Natural dyes), D:362 Guam (History and government), G392 Islam (The mosque), i:416 Gardenia, G:33 Mariana Islands, M:204 Islamic art, 1:419; picture on 1:418 Lake, L:16 Pacific Ocean, P:14; (Exploration) P:18 Maddox, Richard L. [British doctor] Madrid [Spain], M:36 with pictures Pacific Ocean (Discovery by Euro-Photography (The beginnings of mod-Spain picture on, So:164 ern photography), P:461 Madrigal (song), M:38 peans), P:13 Patagonia, P:213 Classical music (Song), Ci:57 Madeira Islands (Atlantic Ocean), M:27 Philippines (The Spanish conquest), Morley, Thomas, M:608 with picture P:405 Poetry (Renaissance poetry), P:615 Madeira River (South America), M:28 Magellan, Strait of, M:44 with maps Madeleine [work by Herbert] Madroña [tree], M:38 See also Cape Horn Herbert, Victor, H:162 Madur Magelian, Ferdinand (The voyage be-Mademoiselle de Scudéry (book by West Bengal (Local crafts), W:159 gins), M:43 with map Hoffmann] Madural (India) Magellanic Clouds, M:44 Hoffmann, Ernst Theodor Amadeus, Tamil Nadu (Places to visit), T:22 Astronomy (The sky at different lati-Madwoman of Chaillot, The iplay by H:240 tudes), A:688; (Brightness mea-Mademoiselle Modiste work by Her-Giraudouxi surement) A:695 Giraudoux, Jean, G:166 bertl Galaxy, G:10 Herbert, Victor, H:162 Maelstrom [Arctic Ocean], M:38 Leavitt, Henrietta Swan, L:144 Mademoiselle Pogany isculpture by Lofoten Islands, L:358 Maggiore, Lake Norway (Coast and Islands), N:297 See Lake Maggiore Brancusi, Constantin, B:522 with pic-Whirlpool, W:229 Maggot [entomology], M:44 Maesta, The [painting by Duccio] Apple (Pests and diseases), A:478 Duccio di Buoninsegna, D:336 Madero, Francisco Indalecio Mexico (The revolution of 1910), M:421 Bot fly. B:478 Pilate, Pontius picture on, P:498 Fly (table), F:279; (Larva) F:279 with plo Madhya Pradesh Indial, M:28 with pic-Maeterlinck, Maurice [Belgian dramatures and map tist], M:39 Insect (Growth and development), Asia (Languages), A:625 Belgium (The arts), B:218 Madison, Dolley Payne [wife of James Drama (Symbolism), D:299 1:254 Magherafelt [Northern Ireland], M:# Madison), M:32 Nobel Prizes (Literature), N:232 Magi [religion], M:44 Madison, James (U.S. president), M:32 Maeve, Queen [frish history], M:39 Magic Barrel, The book by Malamid Madonna [American singer] See also Mave, Queen Malamud, Bernard, M:77 Rock music picture on, R:314 Mafeking Magic, M:45 with picture Madonna and Child [religion], M:33 See Mafikeng See also list of Related Articles with pictures Maffei galaxies [astronomy], M:39 Alchemy, A:235 Fra Angelico picture on, F:381 Australian Aborigines (Magic and Ab Maffei, Paolo (Italian astronomer) Lippi, Filippo picture on, L:303 Maffei galaxies, M:39 original doctors), A:838 Painting (Byzantine painting), P:52 with Mafia, M:39 Fetish, F:61 with picture picture; (Raphael) P:58 with pic-Indian, American (Shamans, priests, Italy (Social problems), 1:471 ture; (Mannerism) P:60 with pic-Sicily (People), S:408 and prophets), 1:148 Mafikeng, M:39 Mask, M:241 Raphael, R:138 Mafouz, Naguid (Egyptian poet) Suggestion, So:395 Renaissance (The fine arts), R:217 with Arab literature, A:487 with picture Magic Circle, M:47 Magic Flute, The lopera by Mozard pictures Magadha lancient Indian statel

Bihar (History), B:289

Magazine, M:40

Advertising, A:62

Journalism, J:150

P:039

North West (Land), N:264

Magaliesberg range (South Africa)

See also list of Related Articles

Public opinion polls (Who uses polls?),

Mozart, Wolfgang Amadeus (His

Magician [entertainer], M.47 with pic

works), M:682

Potter, Stephen, P:722 Magic Rug, The work by d'Aulaires

Opera, 0:471 with picture Magic Number, The book by Potter

tures Magic, M:45 Maginot Line [France], M:49 France (Between World Wars), F:415 World War II (The Phony War), W:383 Magistrate Australia, Legal system of, A:829 Justice of the peace, J:174 Magistrates' court Australia, Legal system of, A:827 United Kingdom, Legal systems of the, Magma Granite, G:295 Igneous rock, 1:28 Metamorphic rock, M:377 Rock (Igneous rock), R:307 Volcano (How a volcano is formed), V:416 with picture Warrumbungle Range, W:41 Magna Carta, M:49 with picture Civil rights (Natural law), Cl:41 Democracy (Democracy in Britain), D:103 England, E:276 Freedom (The Middle Ages), F:435 John, J:127 Runnymede, R:459 Surrey (History), So:445 Magna Charta (work by Daugherty) Daugherty, James Henry, D:43 Magnalia Cristi Americana (book by Matherl American literature (Religious writ-Ings), A:310 Mather, Cotton, M:262 Magnallum Alloy (Alloys for strength and lightness), A:278 Magnesia (chemical), M:50 Magnesium (element), M:50 Alloy (Alloys for strength and lightness), A:278 Anodizing, A:425 Dolomite, D:250 Electrolysis (Uses of electrolysis), E:175 Nutrition (Minerals), N:364 Trace elements, T:322 Magnesium chloride Magnesium (How magnesium is obtained), M:51 with picture Magnesium hydroxide Base, B:123 Magnesium oxide Magnesia, M:50 Magnet See Magnetism Magnetic amplifier, M:51 Magnetic compass Compass, Cl:248

N:322

Sunspot (How sunspots form), So:427 Tape recorder (Erasing and recording), Van Allen belts, V:305 Weber, W:127 Magnetic flow meter Water meter, W:87 Magnetic flux Weber, W:127 Magnetic forming Machine tool (Other advanced machining operations), M:17 Magnetic Island [Australia], M:52 Magnetic lens Electron microscope, E:178 with pic-Magnetic levitation train, M:52 with picture Hovercraft (History), H:332 Transportation (Improvements in Intercity train services), T:361 with picture Magnetic material Magnetism (Kinds of magnets), M:55 Magnetic mine Mine warfare (Kinds of naval mines), Magnetic ordering temperature Magnetism (Magnetism of materials), M:56 Magnetic pole Compass (Variation), Cl:249 Gyrocompass, G:444 Earth (The earth's magnetism), E:21 Magnetic equator, M:51 with diagram Invention picture on, 1:314 Navigation, N:51 Magnetism, M:55 Magnetic confinement North Pole, N:261 Nuclear energy (Fusion devices), Pole, P:637 South Pole, So:118 Magnetic core memory Magnetic resonance imaging (MRI), Manganese (Uses), M:152 M:52 with pictures Magnetic dipole Brain (Disorders of the brain), B:517

Magnetic disk

Magnetic domain

M-57

Equator, E:315

CI:370

tor), E:146

motor), E:153

power), E:157

with picture

Magnetometer, M:60

space), So:130

Magnetism, M:55 with diagram

Sun (Solar magnetism), So:416

Gauss, G:63

Magnetic field

process information), E:191

Cancer (Preliminary diagnosis), C:122 Magnetism (Magnetic poles), M:55 Cryogenics, Cl:468 Medicine (Other technological ad-Electronics (How electronic circuits vances), M:319 Multiple sclerosis, M:694 Magnetism (Magnetism of materials), Magnetic storm, M:53 Magnetic tape Computer (Disk drives and tape Magnetic equator, M:51 with diagram drives), Ci:258 Tape recorder (How tape recorders work), T:38 Cosmic rays (Primary cosmic rays), Magnetic tape Electric generator (A simple genera-Electric motor (Parts of an electric Electric power (Sources of electric with picture Electricity (Effects of electricity), E:170 with picture Light (Other sources of light), L:257 Magnetic resonance imaging, M:52 Space exploration (The beginning of 1800's) P:476 Magnetite Magnetization Magneto, M:59 tor), E:146 Ignition, 1:28 Magnetosphere with picture earth), M:57

Electronics (How electronic circuits process Information), E:191 Magnetism, M:54 with pictures and dia-See also list of Related Articles Earth (The earth's magnetism), E:21 Electricity (Effects of electricity), E:170 Electromagnetism, E:177 Gilbert, William, G:157 Magnetic resonance imaging (MRI), Physics, P:473; (Developments in the Iron and steel (Kinds of iron ore), 1:388 Magnetism (Permanent magnets), Mineral picture on, M:484 Magnetism, M:55 Electric generator (Parts of a genera-Petrol engine (Ignition system), P:334 Magnetohydrodynamic generator Energy supply, E:249 Magnetohydrodynamics, M:59 Magnetohydrodynamics, M:59 Alfvén, Hannes Olof Gösta, A:249 Magnetometer, M:60 Petroleum (Geophysical studies), P:341 Earth (The earth's magnetism), E:21 Jupiter (Flights to Jupiter), J:172 Magnetism (The magnetism of the Solar wind, So:28 Space exploration (The beginning of space), So:130 Sun (The solar wind), So:419 Magnetotactic bacteria Magnetism (Magnetism in living things), M:59; picture on M:57 Magnetron Radar (Advances during World War II), Vacuum tube (Microwave tubes), V:299 Magnetron Electronics (The development of electronics), E:192 Magnificat [music] Bach, Johann Sebastian (His works),

Maharaja Lela [Malay chief], M:64 pher]. M:69 Hebrew language and literature Magnificent Ambersons, The [film] Maharajah (title) (Medieval works), H:129 Royal families (Asia), R:420 Welles, Orson, W:145 Maharashtra [India], M:64 with pictures **Main Ridge** Magnificent frigatebird Trinidad and Tobago (Land and diand map Bird picture on, B:336 mate), T:406 Bombay (History), B:441 Magnificent Obsession Inovel by Main-sequence star India, Languages of, 1:121 Douglas) Astronomy (Stars), A:690 Pune (city), P:857 Douglas, Lloyd Cassel, D:272 Mahathir bin Mohamad, Datuk Seri Star, So:284; (The Hertzsprung elith Magnifying glass, M:60 lagram) So:290 with diagram [Malaysian prime minister], M:67 Magnitogorsk (Russial, M:60 Main Street book by Lewish Magnitude (astronomy), M:60 Mahatma Gandhi, Mohandas Karamchand, G:27 American literature (Satirists), Assis Astronomy (The nighttime sky), A:686; Mahavira (religious leader), M:67 Main-Travelled Roads book by Gar-(Astronomy terms) A:688 landl Star (Measuring brightness), So:289 lainism, 1:11 American literature (Realists), A315 Mahayana Buddhism Magnitude (physics) Garland, Hamlin, G:44 Bodhisattva, B:417 Force (Calculating resultant force), Maine [U.S.A.], M:70 with map Buddhism, B:618 F:337 Maine Islands [painting by Marin] Religion (Buddhism), R:202 Magnolia, M:60 with picture Marin, John picture and portrait on Mahendra (king of Nepal) Magnox reactor Nepal (History), N:77 Nuclear energy (Steam production), Maine Woods, The book by Thorsaul Mahfouz, Nagulb (Egyptian author), N:325 Thoreau, Henry David, T:225 Magple Egypt (The arts), E:110 Maine [ship] Australia (Language), A:751 Cuba (Struggle against Spain), CHAD Nobel Prizes (Literature), N:233 Magple, M:61 with picture with picture Magple goose, M:61 Mahi mahi Havana (History), H:80 Magritte, René [Belgian painter], M:61 Dolphin (fish), D:254 Mainframe [computer] Painting (Surrealism), P:83 Mahler, Gustav [Bohemian composer], Computer, Cl:258 M:66 Surrealism. So:442 Mainspring MAGSAT [satellite] Austria (Music), A:860 Watch (Mechanical watches), Will Classical music (The romantic era), Satellite, Artificial (Important satellites), Mainstreaming Cl:61 Special education, So:206 Magsaysay, Ramón [Filipino political Walter, Bruno, W:29 Maintenance leaderl, M:61 Mahogany, M:68 with pictures Road (How roads are maintained, Wood picture on, W:299 Hukbalahap, H:345 R:297 Mahomet Philippines, History of the (The Philip-Maintenance dose See Muhammad pines under Quirino), P:413; (The Allergy (Diagnosis and treatment), Mahrattas [people] Magsaysay eral P:413 A:274 Mughai Empire, M:683 Maguey [plant], M:62 with picture Maintenance-free battery Mahy, Margaret (New Zealand-born Magyar [language] Battery (History), B:156 Hungary (Language), H:376 authorl, M:69 Maintenon, Marquise de lwife of King Magyars [people], M:62 Maid of Orleans, The [play by Schiller] Louis XIV of Francel, M:70 Austria (Ancestry and population), Joan of Arc, Saint, J:122 Mainz [Germany], M:70 Maid of Sker, The book by Blackmore Maiolica Czechoslovakia (Early history), Cl:523 Blackmore, R. D., B:380 See Majolica Hungary (Ancestry and population), Maidenhair fern, M:69 Maire, Jakob le [Dutch navigator] H:376; (Early years) H:381; (The Maidenhair tree Tonga (History), T:295 Kingdom of Hungary) H:381 Ginkgo, G:162 Slovaks, **S:492** Maisonette Tree, T:376 House, H:321 Transylvania, T:365 Maid's Tragedy, The [play by Beau-Maitland [Australia], M:70 Maltland, Frederic William English Trianon, Treaty of, T:398 month Mah-jongg [game], M:62 with picture Beaumont, Francis, B:175 historian], M:70 Game (Tile games), G:24 with picture Maldstone (England), M:69 Maius [month] Mahabharata [Indian epic] Kent (Local government), K:219 Calendar (The Romans), Ca35 India, Literature of (The Vedas), 1:124 Mail Maize, M:71 with pictures See also list of Related Articles Sanskrit literature, S:75 Post office (Classes of mail), P:712 Colonial life in America (Crops), CEN Mahabharata [poem], M:62 with pic-Mail-order business Culture (Contact with other cultures) Advertising (Direct mail), A:62 Goa (History), G:220 Maller, Norman [American author], Cl:493 Grass (Kinds of grasses), G302 Hinduism (Literature), H:214 M:69 with portrait Bhagavad-Gita, B:265 American literature (Fiction and other Hominy, H:257 Vishnu, V:409 prose), A:320 Hybrid picture on, H:394 Maillol, Aristide (French sculptor), Wayang, W:107 Pellagra, P:248 Mahalibadi, Josh (Indian writer) Majapahit, M:75 India, Literature of (Progressive litera-Maiman, Theodore H. [American phys-Selangor (History), **S:242** ture). 1:129 Majestic Invention (Recent developments), Mahamaya Potato, P:718 1:320 Buddha (Birth and early life), B:613

Laser (History), L;74

Maimonides, Moses IJewish philoso-

Mahanagar Telephone Nigam

Telephone (India), T:108

Iran (National government), £332

Majolica [pottery], M:76 with picture Pottery (Early pottery), P:724; picture on P:723 Major histocompatibility complex Immune system (The immune response), I:40

Major medical expense insurance Insurance (Basic types of health insurance), 1:273

Major scale [music]

Music (The elements of music), M:729 with diagram

Major, John (British political leader), M:76 with portrait

Conservative Party (History), Ci:306 United Kingdom, Government of the Itable), U:115

Majorca, M:76 with picture Balearic Islands, B:40 See also Majolica

Majority rule, M:76

Democracy (Majority rule and minority rights), D:101 Mak Yong

Malaysia (Arts and crafts), M:88 Makalu, Mount

See Mount Makalu Makarezos, Nicholas [Greek political

Greece (The revolt of 1967), G:344 Makarios III [Cypriot political leader],

Cyprus (History), Ci:514

Makarska Riviera Croatia picture on, Ci:446 Makati [Philippines], M:77

Makeba, Mirlam (South African Singer), M:77

Makeready

Printing (Rotary presses), P:783

Film Industry picture on, F:84 Theatre (Makeup techniques), T:201 See also Cosmetics

Making of an American, The book by

Riis, Jacob August, R:277

Making of Modern Ireland 1603-1923, The book by Beckettl Beckett, James Camilin, B:178

Makkah

See Mecca Mako shark

Shark, S:333 Makropulos Affair, The lopera by

Janáček) Janáček, Leoš, **J:28**

Malabo (Equatorial Guinea), M:77 Malacca See Melaka

Malacca, Strait of See Melaka

Malachi, Book of [Old Testament], M:77 Malachite [mineral], M:77

Mineral picture on, M:485 Malachite kingfisher

Bird picture on, B:327 Malacostracan

Crustacean (The body of a crustacean),

Ci:465 **Malagasy Republic**

See Madagascar

Malamud, Bernard [American author], M:77

Novel (After World War II), N:314

Malamute

See Alaskan malamute Malan, Daniel Francois (South African political leader), M:78

South Africa (Formation of the United Party), So:84; (World War II) So:84

Malaprop, Mrs. [fictional character], M:78

Malapropism

Malaprop, Mrs., M:78

Malaria [disease], M:78 with pictures

Blood (Infections), B:400

Cinchona, Ci:4

Laveran, Charles Louis Alphonse, L:108

Mosquito, M:633 Quinine, Q:30

Races, Human (Susceptibility to genetic diseases), R:48

Ross, Sir Ronald, R:403

Malathion

Insecticide, I:264

Malawi, M:79 with picture and map Banda, Hastings Kamuzu, B:75 Flag picture on, F:201

Lilonowe, L:276

Rhodesia and Nyasaland, Federation of, R:256

Malay Archipelago, The [book by Wallacel

Wallace, Alfred Russel, W:23

Malay Archipelago (Islands, Pacific), M:81 Malay-Indonesian language, M:81

Malay-Indonesian literature, M:81 Malay Peninsula Pacific Ocean (Boundaries and size),

P:14

Malaya

See Malaysia

Malayalam

India, Languages of (Dravidian languages), k123 Malayan tapir (animal)

Animal picture on, A:389

Malayan Union

Malaysia, History of, M:105 Malays [people], M:82

Malaysia, M:83 with pictures and maps See also list of Related Articles Association of Southeast Asian Nations (ASEAN), A:673

Aviation (Aircraft nationality marks),

A:881

Education, E:87 Flag picture on, F:205 Free port, F:430

Girl Guides and Girl Scouts, G:170

Government, G:274 Jaafar, Tuanku, J:2

Malays, M:81 Police, P:642

Royal families, R:421

Scouting, S:181

Singapore (Federation), S:452

Telephone, T:109

Trade unions, T:330

Malaysia, Federal Territory of, M:95 Malaysia, Government of, M:96

Malaysia, History of, M:99 with pictures

Malaysian Airline System Airline (table), A:208

Malcolm II (king of Scotland)

Duncan I, D:347

Scotland, History of (The kingdom of Scotland), S:168

Malcolm III [king of Scotland] David I. D:45

Henry I, H:151

Macbeth, M:5

Scotland, History of (The kingdom of Scotland), S:168

Malcolm X (American social reformer), M:111

Malcolm, George John British harpsichordisti, M:111

Maidives, M:111 with map Flag picture on, F:205

Maldon [England], M:112 Essex (Local government), E:332

Male

Gender, G:74

Penis, P:260

Reproduction (Human reproduction), R:244; diagram on R:226

Sex, S:289 Sex ratio, S:292

Steroid (The sex steroids), So:319

Male [Maldives], M:112

Male Animal, The (play by Thurber) Thurber, James, T:233

Male pattern baldness

Baldness, B:39 with picture

Male pollen cone Pollen, P:655

Seed (Seed development in gymnosperms), S:236

Malemute

See Alaskan malamute

Malenkov, Georgi Maximilianovich (Russian political leader), M:113

Malherbe, François de French poeti, M:113

French literature (Classical poetry), F:447

Mali, M:113 with pictures and map Bamako, **B:70**

Flag picture on, F:201

Mali Empire, M:117

Africa (Kingdoms In Western Africa), A:150

Guinea (History), G:415 Mandingo, M:151

Sundiata Keita, So:425

World, History of the (African civilizations), W:347

Malibran, Maria Felicita (Spanish opera singerl, M:117 Malignancy [disorder], M:117

Oncology, 0:451 Tumour, T:438

Cancer (How cancer develops), C:118

Malik, Adam [Indonesian statesman],

442

Malignant tumour

Brain (Tumours), B:517

Skin (Tumours), S:470

Malignancy, M:117

Biopsy, B:313

M:117

Orthodontics, 0:507

Malolactic fermentation

Wine (Fermentation), W:275

Malory, Sir Thomas [English author],

Teeth, T:95

M:120

Excalibur, E:413 Galahad, Sir, G:9 Round Table, R:411 Malouf, David [Australian writer] Australia, Literature of (Modern novels), A:832; (Modern short stories) Malpighi, Marcello Italian anatomisti, M:120 Biology (Early discoveries with the microscope), B:306 Heart (Discovery of circulation), H:111 Malpighian tube lanatomyl Insect (Digestive system), 1:251 Malpractice suit [law], M:120 Medicine (Legal and ethical questions), M:319 Mairaux, André (French author), M:120 Malt [food], M:120 with picture Alcoholic beverage (Beer), A:237 Barley (Uses of barley), B:113 Brewing (Malting), B:555 Grain (Other uses), G:285 Vinegar, V:395 Malta, M:121 with pictures and map See also list of Related Articles Europe (table), E:359 Flag picture on, F:208 Government, G:274 Telephone, T:109 Malta fever Brucellosis, B:597 Malta, Knights of See Knights of Saint John Maltese, M:124 Dog picture on, D:234 Maitese Falcon, The book by Hammett Hammett, Dashiell, H:32 Maltese Falcon, The [film] Bogart, Humphrey, B:419 Malthus, Thomas Robert (British economistl. M:124 Birth control (The birth control movement), B:367 Economics (The classical economists), Evolution (Darwin's theory), E:412 Food supply, F:309 Population (Effects), P:686 Maltose, M:124 Carbohydrate (Simple carbohydrates), C:187 with diagram Saliva, S:51 Starch (Use in foods), So:293 Sugar (Kinds of sugar), So:390

Arthur, King, A:609

Earth (The Mesozoic Era), E:27 Human being (Scientific classification), H:346 Mammary glands, M:138 Prehistoric animal (The Age of Mam: mais), P:747 Reproduction, R:224 Mammalogy Zoology (What zoologists study), Z:506 Mammals, Age of Mammal (The Age of Mammals), M:138 Prehistoric animal (The Age of Main mals), P:747 Mammary glands, M:138 Breast, B:550 Gland (table; Exocrine glands), G:183 Lactation, L:11 Mammai (Care of the young), M:133 with pictures Mammillary layer Egg (The shell), E:97; diagram on Est Mammography Breast, B:550 Cancer (Preliminary diagnosis), G122 Mammoth, M:138 with picture Elephant (Protecting elephants), East Fossil (The action of minerals), F371 Prehistoric animal (The development with picture of placentals), P:747 with picture Mammoth Cave [U.S.A.], M:139 Malvern Hills [England], M:124 Kentucky (Land), K:223 Malvern, Viscount (Rhodesian politi-Man cian), M:124 Man, Isle of, M:139 with picture and See Human being Malvinas See Falkland Islands Mama doll Europe (table), E:359 Man and Boy [play by Rattigan] Doll (Rivalry in the doll industry), Rattigan, Sir Terence, R:144 D:247 Man and the Horse lillustration by Fir Mamba (snake), M:124 with picture Mamelukes [people], M:124 tro Ventural Literature for children, L:318 Cairo (History), C:20 Egypt (Muslim rule), E:115; (Turkish

and French control) E:116 with

Jordan (Arab and Ottoman rule), k144

Palestine (Arab control), P:103

Mamet, David (American playwright).

American literature (Drama), A:321

Mamikonian, Vartan (Armenian leaders

Armenia (History), A:580

Mammal, M:125 with pictures

kingdom), A:414

A:401

fures

See also list of Related Articles

Animal (A classification of the animal

Animal (A table of animal intelligence),

young), A:406 with pictures

Animal (How animals raise their

Animal (Kinds of animals), A:380

Animal (Sexual reproduction), AxIII

Animal (The origin and development

Circulatory system (Vertebrates), Cd

Ear (The ears of animals), E:13 with pic

Animai (Regeneration), A:406

of animals), A:411

picture

M:124

Man of Mode, or Sir Fopling Flutter, The iplay by Etheregel Etherege, Sir George, E:335 Man of the People, A [book by Achebe] Achebe, Chinua, A:23 Man of war bird Frigatebird, F:460 Man Pointing (sculpture by Giacometti) Glacometti, Alberto, G:151 Man-Shy (book by Davison) Davison, Frank Dalby, D:49 Man Who Came to Dinner, The Iplay by Kaufman] Kaufman, George S., K:202

Man Who Died Twice, The locetry by Robinson, Edwin Arlington, R:303

Man Who Loved Children, The book by Stead] Stead, Christina, So:307 Man with a Guitar [painting by Braque]

Braque, Georges, B:523 Cubism picture on, Cl:485

Man with a Magnifying Glass (painting by Rembrandtl Rembrandt (The last years: 1640-1669),

Man With the Golden Arm, The book

by Algreni Algren, Nelson, A:267

Mythology, M:762 Manacles

Handcuffs, H:41 Managed floating

Balance of payments (Balance of payments and exchange rates), B:37 Exchange rate, E:413

Management industry, 1:222 Personnel management, P:301

Management Information system, M:141

Managua (Nicaragua), M:141 Nicaragua, N:192 with picture Manakin, M:141 with picture

Manama [Bahrain], M:142 Manas lepic poeml

Kyrgyzstan (People), K:348 Manatee [sea animal], M:142 with pic-

ture Animal picture on, A:394

South America (Animals), So:95

Manaus [Brazil], M:142

Brazil (The Amazon Region), B:537 Manchester [England], M:143 with pictures

See also list of Related Articles Arms picture on, A:586

Manchester, Greater [former metropolitan countyl, M:147 with picture Manchester Anti-Corn Law Associa-

tion Manchester (History), M:146

Manchester Central Library Manchester picture on, M:143 Manchester terrier, M:148

Dog picture on, D:232 Manchineel (tree), M:148 Manchuria [China], M:148 with map See also list of Related Articles China (Land), C:449; (The Eastern Lowlands) C:450 Japan (Rise of militarism), J:58

Manchus,, M:149 Russo-lapanese War, R:502

Manchus [people], M:149

Boxer Rebellion, B:493

China (The early rule of the Manchus), C:460 with map: (The fall of the Manchus) C:461

Korea (The Yi dynasty), K:328 Manchuria (People), M:148 Mongolia (History), M:561 Nanjing (History), N:15

Mandalay (Burma), M:149 Mandamus (law), M:149

Mandarin [fruit], M:149 Orange, 0:482

Mandarin [title], M:149 Mandarin duck [bird] Duck picture on, D:339

Mandated territory, M:149 Iraq (British rule), £346 Middle East (World War I), M:456 Palestine (World War I and the Balfour Declaration), P:104

West Bank (History and Government), W:157

Mandatory eight-count Boxing (Fight rules), B:496 Mande [people]

Burkina Faso (People), B:654

Mandela, Nelson (president of South Africal, M:150 with picture African National Congress (ANC), A:154

De Klerk, F. W., D:90 President picture on, P:765 South Africa, Government of pictures

on, So:73, So:75 South Africa, History of (Opposition to apartheid), So:85; (The end of apartheid) So:86; (South Africa today) So:86

South Africa, History of (South Africa today), So:84 with picture

Mandela, Winnie, M:150 Mandible [anatomy], M:150

Face, F:3 Head diagram on, H:93 Skull, S:474

Mandible (entomology) Ant (The head), A:428 with picture Beetle (Mouthparts), B:196 with pic-

Insect (Mouthparts), 1:248 Mandingo [people], M:151

Gambia (People), G:21 Liberia (Recent developments), L:209 Mali (People), M:114 Senegal (People), \$:251

Mandolin Imusical instrumenti, M:151 Music (Plucked stringed instruments), M:728 with picture

Mandragola, La (play by Machiavelli) Drama (Italian Renaissance drama), D-290

Mandragora (book by Powys) Powys, John Cowper, P:733

Mandrake [plant], M:151 with picture Mandrill (animal), M:151 with picture Mandylion

Shroud of Turin, S:404

Maned wolf, M:151

Manet, Edouard (French artist), M:152 with portrait and picture Impressionism (French impression-

ism), **I:46** Morisot, Berthe, M:607

Painting, P:74 with picture; (Impressionism) 1:76

Renoir, Pierre Auguste, R:222 Manfred [poetry by Byron] Byron, Lord (Byron's life), B:695;

(Byron's poetry) B:696

Mangan, James Clarence (Irish poet) Irish literature (Prose and poetry),

Manganese (element), M:152 Trace elements, T:322

Manganese dioxide Battery (Carbon-zinc celis), B:154 Manganese (Uses), M:152

Manganese ore Manganese (Sources), M:153

Manganese steel Manganese (Uses), M:152

Manganese sulphate Manganese (Uses), M:152 Manganous nitrate

Manganese (Uses), M:152

Manganous oxide Manganese (Uses), M:152 Mange [disease], M:153

Pig (Diseases), P:494

Mangelwurzel, M:153 Beet, B:193

Mango (fruit), M:153 Mango melon

Meion (Types of meion), M:338

Mangold

Mangelwurzel, M:153 Mangope, Lucas

Cape Province (History), C:137 Transvaal (History), T:364

Mangosteen, M:154 with picture Mangrove, M:154 with picture

Mangrove forest, M:155

Swamp, So:454

Manhattan Island, M:155 New York City, N:143 with picture

Manhattan Melodrama [film] Dillinger, John Herbert, D:173

Manhattan Project, M:155

Nuclear energy (The development of nuclear weapons), N:329

Nuclear weapon (World War II), N:340 Wilkins, Maurice Hugh Frederick, W(253

World War II (The atomic bomb), W-402

Manhattan Transfer inovel by Dos Passos

Dos Passos, John, D:271 Manhattan [ship]

Northwest Passage, N:290

Mani

Manta [psychology]

Depression, D:125

See Manichaeism

disorders) M:352

Manic-depressive disorder

Mental illness (table), M:351; (Affective

Mann, Thomas [German author], M:163 German literature (Characteristics of

German literature), G:106

Novel (New directions in the novel),

Nobel Prizes (Literature), N:232

Manna (Old Testament), M:163

Eucalypts picture on, E:349

Johnson Space Center, J:134

Clothing picture on, Cl:108

velopments) F:123

Mannerheim, Carl Gustaf Emil von

Finland (The new republic), F:122;

Mannerism [art], M:163 with picture

[Finnish military and political leader],

(World War II) F:122; (Postwar de-

Manned Spacecraft Center

Houston (History), H:331

Manna gum [tree], M:163

N:313

Mannequin

Manners and customs Brain (Brain chemistry and mental ill-Plate tectonics (Structure of tectonic See Custom; Etiquette ness), B:516 plates), P:584 Mannheim [Germany], M:164 Depression, D:125 Manning, Henry Edward Cardinal Mantle (lamp) Mental illness (Affective disorders), Lamp (Gas lamps), L:36 [British religious leader], M:164 Mannix, Daniel Australian religious Mantle zoologyl Mood (psychology), M:582 Clam, Ci:50 leaderl, M:164 Vanadium, V:305 Mollusc, M:535 Manometer [instrument], M:164 Manicaland [province, Zimbabwe] Octopus, 0:409 with diagram Hydraulics (Use of hydrostatic princi-Zimbabwe (Local government), Z:494 Oyster (The body of an oyster), 0:539 ples), H:398 Manichaelsm (religion), M:155 Pearl (How pearls are formed), P:233 Manon [opera by Massenet] Manifest destiny, M:155 with diagram Nationalism (Different forms of nation-Massenet, Jules, M:247 Shell (How shells are formed), \$343 Manor house alism), N:44 Mantle plumes Stately homes (The Middle Ages), United States, History of the, U:246 Plate tectonics (Evidence of plate 50:296 Manifold movement), P:585 Manorialism, M:164 Fuel injection, F:479 Mantle, Mickey (American basebal) City (Economy), Cl:29 Manigat, Leslie player], M:166 Economics (Early beginnings), E:64 Haiti (History), H:18 France (The rise of manorialism and Mantling Manila (Philippines), M:156 with picture Heraldry (Elements of a coat of arms), feudalism), F:411 Manila Bay [Philippines], M:161 with H:160; picture on H:159 Manpower picture Mantra See Labour force Manila Bay, Battle of Buddhism (Cosmic Buddhas and bod-See Spanish-American War Manru lopera by Paderewskil hisattvas), B:618 Paderewski, Ignace Jan, P:19 Manila Cathedral Transcendental meditation, T:338 Mansa Musa (Mali ruler), M:165 Philippines picture on, P:373 Manu (Hindu mythology), M:166 Mali Empire, M:117 Manila hemp [fibre] Manu Smriti [Hinduism] Mali (History), M:116 Abacá, A:3 Manu, M:166 Mansard roof Philippines (Agriculture), P:385; pic-Manual communication Roof, R:385 with picture ture on P:382 Deafness (Special alds and communi-Mansfield (England), M:165 Manimekalai [Tamil epic] cation techniques), D:57 India, Literature of (Early Dravidian lit-Mansfield Park [book by Austen] Sign language, S:414 with diagrams Austen, Jane, A:748 erature). I:126 Manuel I (the Fortunate) (king of Portion Mansfield, Katherine British authorl, Manioc gall M:165 with portrait See Cassava Da Gama, Vasco (Early life), Dol New Zealand (Arts), N:156 Manipur (India), M:161 with map Magellan, Ferdinand (Planning the er Mansion stage [drama] Manitoba (Canada), M:162 pedition), M:42 Drama (Mystery plays), D:288 with pic-Manley, Michael Norman (jamaican Portugal (The age of exploration), political leaderl, M:162 P:705 Manslaughter [law], M:165 Manuel, Dom Imedieval noblemani Manly Cove (Australia), M:162 Murder, M:705 Phillip, Arthur (To Port Jackson), P:416 Cabell, James Branch, C:3 Negligence, N:69 with map Manufactured fertilizer

Manson, Sir Patrick [Scottish doctor],

Mantegazza brothers (Italian sculp-

Sculpture (Early Renaissance), S:211

Mantegna, Andrea (Italian artist), M:165

Engraving (History), E:297; picture on

Fishwith picture, F:160

M:165

Ray, R:147

with picture

E:296

Fresco picture on, F:456

Jesus Christ picture on, J:99

Manta Ray

Cellini, Benvenuto, C:305 with picture

Italian literature (Humanism and the

Renaissance), 1:445

Painting, P:60 with picture

Sculpture (Michelangelo), S:212

Lippi, Filippino, L:303

Greco, El, G:331

L:361

Earth (Inside the earth), E:20 with dia-

Magnetism (The magnetism of the

Ocean (How the sea floor was formed)

Fertilizer (Production and sale), Fig0

tured fibres), T:229 with diagram

Gas, G:48; (How gas is manufactured

G:55; (First uses of manufactured

Textile, T:170; (table) T:170 Thread (Making thread from manufac

Manufactured fibre

Manufactured gas

Coke oven gas, Cl:158

gas) G:56

Manufacturing, M:167 See also list of Related Articles

earth), M:57

O:398

Mantle (geology)

Automation (Uses of automation), Painting (Florentine masters), P:54 with Edison, Thomas Alva (Electric utilities picture and electrical manufacturing), Eff Renaissance picture on, R:214 Mantis linsectl, M:166 with picture Factory, F:5 with picture Animal (Courtship behaviour), A:405 Mass production, M:245 Safety (Safety at work), 5:13 Mantissa [mathematics] Logarithms (Common logarithms),

Mauritania (People), M:268

Maracaibo [Venezuela], M:195

Senegal (People), S:251

Marabout (religion)

Space exploration (Expanding space activities), So:162 Manukau [New Zealand], M:170 Manukau Harbour Auckland, A:734 Manumission Slavery (Ancient times), S:480 Manure, M:170 Conservation (Soil conservation), CF795 Gardening (Preparing the soil), G:38 Manus Island (Papua New Guinea), M:170 Admiralty Islands, A:50 with pictures Bismarck Archipelago, B:370 Manuscript (document), M:170 See also list of Related Articles Publishing (Publishing a book), P:844 Writing (Preparing and submitting a manuscript), W:422 Manutius, Aldus [Venetian printer] Book (The spread of printed books), B:456 with picture Italics, 1:446 Punctuation, P:856 Many Cat (Breeds of cats), C:249 with picture Man, Isle of, M:139 Manxman, The [book by Caine] Caine, Sir Hall, C:15 Many Long Years Ago [work by Nash] Nash, Ogden, N:27 Many Loves (work by Williams) Williams, William Carlos, W:258 Man'yoshu (japanese poetry) Japanese literature (Beginnings), J:63 Manzanita, M:172 with picture Manzii, Glacomo (Italian sculptori Sculpture (Kinds of sculpture), 5:190 Manzoni, Alessandro (Italian author), M:172 Italian literature (Romanticism), 1:446 Verdi, Giuseppe, V:345 Mao Dun (Chinese editor), M:173 Mao Tse-tung See Mao Zedong Mac Zedong (Chinese political leader), M:173 with portrait Belling (History), B:205 China (Nationalist rule), C:462; (The beginning of Communist rule) C:463 with picture Chinese literature (Modern Chinese literature), C:470 Deng Xlaoping, D:107 Guerrilla warfare (Modern guerrilla techniques), G:404 Jiang Qing, J:117 Maori [Maori language], M:177 New Zealand (Language), N:154 See also Maori (people) Maori [people], M:174 with pictures See also list of Related Articles Cook, james (New Zealand), Ci:327 with picture Cook Islands, Ci:332 Moa, M:521

Mythology (Generic relationships),

M:753; (Creation myths) M:761

New Zealand, N:154 New Zealand, History of, N:164 with pictures; (Maori involvement) N:167: (New Zealand since 1972) N:175; (The Treaty of Waitangi) N:168 with picture Sculpture (Pacific Islands sculpture), S:204 with picture Waitangi, Treaty of, W:5 Maori Battalion, M:173 Map, M:183 with pictures and maps See also list of Related Articles Ordnance Survey (OS), 0:491 Map index Map, M:187 Map legend Map, M:184 Map projection Map, M:187 with diagrams Map symbol Map (Map legends), M:184 MAPHILINDO [Malay unity group] Philippines (The era of Diosdado Macapagal), Px13 Maple, M:192 Wood picture on, W:299 "Maple Leaf Rag" [music by Joplin] Jazz (Early jazz), J:75 Joplin, Scott, J:140 Maple syrup, M:193 Maple, Flowering See Abutilon Mapparium Globe picture on, G:210 Mapping Geography (How geographers work), Magnetism (Mapping magnetic fields), M:58 with diagram Pacific Ocean (Exploration), P:15 Mapping radar Radar (intelligence gathering), R:56 Mapu, Abraham [Hebrew writer] Hebrew language and literature (Modern Hebrew literature), H:130 Maputo [Mozamblque], M:194 with pic-Mozambique, M:678 with pictures Magkwetu, Clarence Pan-Africanist Congress of Azania, P:111 Maquette Sculpture (Medieval and Renaissance sculptors), S:193 Maquis, M:194 France (World War II), F:415 Greece (Land), G:337 World War II (Resistance groups), W:403 Mar del Plata [Argentina], M:194 with picture Mara, Ratu Sir Kamisese [Fijian political leaderl, M:195 Fiji (History), F:78 Marable, Fate [American bandleader] jazz (Early jazz), J:75 Marabou, M:195 with picture Marabout Mali (People), M:114

Maracaibo, Lake See Lake Maracaibo Maracas Venezuela (Recreation), V:330 Maradona, Diego Armando (Argentine footballer], M:195 Marais, Eugene, M:196 Maraió, M:196 Maralinga [Australia], M:196 Maraiinga Land Rights [law] South Australia (Later development), Maraschino cherry, M:196 Marasmus (disease) Nutrition (Protein-energy malnutrition), Marat, Jean Paul (French political leaderl, M:196 with picture Corday, Charlotte, Cl:350 Danton, Georges Jacques, D:32 French Revolution (The National Convention), F:453 with picture Maratha dynasty Maharashtra (Rise of the Marathas), Marathi India, Languages of (Modern Indo-European languages), 1:123 Marathi (language) Maharashtra (People), M:64 Marathon [battle, 490 a.c.], M:196 Army (table), A:593 with picture Darlus I, D:34 Miltiades, M:476 Marathon (sports) Canoeing (Marathon racing), C:130 Running, R:458 United States picture on, U:201 Marathon Man [film] Hoffman, Dustin, H:240 Marat/Sade [play by Welss] Drama (Later German-language drama), D:300 German literature (Postwar German literature), G:110 Marazan (book by Shute) Shute, Nevil, 5:405 Marble (rock), M:197 with pictures See also list of Related Articles Rock, R:309; (Metamorphic rock) R:309 with picture Marble Bar [Australia], M:198 Marble bones Osteosclerosis, 0:514 Marble Faun, The (book by Hawthorne) Hawthorne, Nathaniel (His novels), H:89 Marbles [game], M:198 with pictures Marc, Franz (German artist) Germany picture on, G:123 Kandinsky, Wassily, K:184 Painting (Expressionism), P:80 Marcel wave

Hairdressing (The 1800's), H:13

Marcel, Gabriel [French philosopher],

Marggraf, Andreas Sigismund [Ger-

man chemist!

with portrait and picture Sugar (Sugar from sugar beets), M:198 with portrait Marine [military], M:208 with picture March [month], M:199 with pictures Navy, N:57 7inc. Z:498 March [music], M:201 Marine blology, M:209 with pictures Margin (economics), M:204 March equinox See also list of Related Articles Marginal land Equinox, E:316 with diagram Biology (What biologists study), Batt Rent, R:223 Marches [Wales], M:201 Science (Other branches), S:141 Marching Along [work by Sousa] Marginal sea Marine eelgrass Sousa, John Philip, So:55 with portrait Pacific Ocean, P:14 Eelgrass, E:96 Marginal utility leconomics) Marching band Marine engineering Jevons, William Stanley, J:108 Band, B:74 Engineering, E:258 Marching girls, M:201 with picture Margrethe II (queen of Denmark), Marine iguana M:204 Marciano, Rocky [American boxer], Galapagos Islands picture on, G10 Denmark (Postwar years), D:117 M:201 Iguana, I:30 Frederik (IX), F:429 Marco Millions [play by O'Neill] Marine oil Royal families (Denmark), R:419 O'Neill, Eugene Gladstone, 0:452 Margulis, Lynn | American biologist Oil (Fixed oils), 0:419 Marco Polo (Italian explorer) Marine plant See Polo, Marco Gala, G:7 See also list of Related Articles Maria [astronomy] Marco Polo sheep Marine biology, M:209 Animal picture on, A:383 Basalt, B:123 Marine toad Marconi, Guglielmo [Italian inventor], Mars (Dark areas), M:221 Toad (Kinds of toads), T:268 Moon (The moon's surface), M:585 M:201 with picture Marine trench Communication (The beginning of the Maria Island (Tasmanial, M:204 Earth (The earth's surface), E:19 Maria Theresa (Holy Roman empress), electronic age), Ci:233; picture on Mariner (space probe) M:204 with portrait Jet Propulsion Laboratory, J:107 Austria (Wars in the 1700's and 1800's), invention (The late 1800's), I:318 Mars (Flight to Mars), M:223 Nobel Prizes (Physics), N:226 Space exploration (Probes to Mars), Germany (The rise of Prussia), G:132 Radio (Early development), R:83 with So:144; (Probes to Venus) So:14(Habsburg, House of, H:3 picture on So:143 Seven Years' War (In Europe), S:282 Telegraph (The telegraph today), T:103 Venus (Flights to Venus), V:342 Succession wars (The War of the Aus-Marcos, Ferdinand Edralin (president Marion beauty ivy trian Succession), So:378 of the Philippines], M:202 lvy picture on, 1:477 Mariana Islands, M:204 with picture Philippines, History of the (The era of Marion, Francis American military Diosdado Macapagali, P:413; (The Mariana Trench leaderl, M:211 Marcos regime) P:413 with pic-Deep. **D:77** Marionette Earth (The earth's surface), E:19 ture Puppet, P:864 with picture Exploration (Deep-sea exploration), Marcos, Imelda iwife of Marcos, Ferdi-Mariposa Illy, M:211 with picture E:428 nand) **Maris Piper** Marcos, Ferdinand Edralin, M:202 Ocean (Depth), 0:387 Potato, P:719 Marcus Aurelius (Roman emperor), Pacific Ocean (The ocean floor), P:14; Marisoi (American sculptor), M:211 (Exploration) P:15 M:202 Maritain, Jacques (French philoso-Sculpture (Roman sculpture), S:208 Maric, Mileva pher], M:211 Mardekhar, B.S. [Indian writer] Einstein, Albert, E:134 Maritime law, M:211 India, Literature of (The search for Marie Antoinette (queen of France), Flotsam, jetsam, and lagan, F:236 modernity), 1:129 M:205 with picture Salvage, S:59 Marius, Galus (Roman general), M212 Mardi Gras, M:202 French Revolution, F:451 Lafayette, Marquis de, L:13 Easter (Carnivals), E:44 Caesar, Julius (Early life), C:12 Louis [Louis xvi],, L:400 New Orleans (Annual events), N:120 Legion, L:155 Marie Celeste Shrove Tuesday, S:404 Pompey the Great, P:666 Marduk (Babylonian god), M:203 See Mary Celeste Sulla, Lucius Cornelius, So:398 Marivaux, Pierre [French dramatist] Marie Louise [wife of Napoleon I], Mare Donkey, D:266 M:212 Horse (Life history), H:294 Josephine (Her last years), J:148 Drama (France), D:295 French literature (The age of reason) Mule, M:689 Napoleon I (Divorce and remarriage), Marek's disease N:22 F:448 Poultry (Raising poultry), P:727 Napoleon II, N:23 Marjoram, M:212 with picture Mark, Gospel of New Testament Marigold, M:206 with picture Maremma sheepdog, M:203 Bible (Books of the New Testament), Marfan syndrome (disorder), M:203 Marigold [ship] Margam Abbey (Wales) Drake, Sir Francis (Voyage around the R:273 Glamorgan (Places to visit), G:180 world), D:281 Gospels, G:262 Margaret of Scotland, Saint, M:203 Marihuana Jesus Christ, J:96 Mark, Saint [Biblical figure], M212 Margaret, Princess See Marijuana Marijuana [drug], M:206 with picture Royal Family of the United Kingdom, Gospels, G:262 Drug abuse (Abuse of illegal drugs), R:423, R:425 Jesus Christ (Ministry), 1:98 D:321: (table) D:322 Margarine, M:203 Mark Anthony Marimba (percussion Instrument), Butter (History), B:679 Anthony, Mark, A:466 M:207 with picture Margate [England], M:203 Money (The value of money), Musti Mark [money], M:212 Margay (animal), M:203 with picture **Marin County Civic Center**

Wright, Frank Lloyd picture on, W:417

Marin, John (American artist), M:208

picture on M:547

Mark of cadency Heraldry (Elements of a coat of arms), H:160 Market Economics (Markets, prices, and competition), E:63 Marketing (Market research), M:213 Price, P:774 Trade (The use of markets), T:325 See also Capitalism

Market economy See Capitalism

Marketing, M:213

Market gardening, M:212 with picture Market research, M:213

Market research survey

Public opinion poli (Business companies), P:839

Marketing, M:213

See also list of Related Articles Cod (Cod fishing and marketing),

Fishing Industry, F:194 Food, F:300

Fruit, F:474 Fur, F:490 MIlk, M:467 Publishing, P:845

Tobacco (Marketing tobacco), T:271

Marketing cooperative Cooperative, Cl:337 Markham, Robert See Amis, Kingsley

Markham, Sir Clements R. [British authorl

Baffin, William, B:25

Markievicz, Countess (Irish political leaderl, M:214 Markland

Ericson, Leif, E:318

Markova, Dame Alicia English ballerina], M:214 Dolin, Anton, D:242

Marks and Spencer, M:214

Marks, Lord (British businessman),

Marks and Spencer, M:214 Marks, Michael (Polish-born business-

Marks and Spencer, M:214 Marks, Simon

See Marks, Lord Mari [rock], M:214 Marlborough Downs

Wiltshire (Land regions), W:266

Mariborough, Duke of English general], M:214 Anne, A:424

Blenheim, Battle of, B:386 England (War with France), E:279

Marley, Bob [jamaican musician], M:214 West Indies (Arts), W:167

Marlin, M:215 with picture

luckinghamshire picture on, **B:609** Marlowe, Christopher British play-Wrightl, M:215

Blank verse, B:384 Drama (Elizabethan playwrights), D:291

Poetry (Renaissance poetry), P:615 Marmara, Sea of, M:215 with map Marmion [book by Scott]

Scott, Sir Walter (His life), S:175

Marmoset, M:215 with picture Marmot, M:216

Squirrel, So:254

Marne River [France], M:216 Marne, Battles of the

Army (table), A:593

Joffe, Joseph Jacques Césaire, J:123 Paris (The 1900's), P:183

World War I (The Western Front), W:366: (The last campaigns) W:373

Maroon [runaway]

West Indies (Slavery and rebellion), W:172

Marot, Clement | French poetl, M:216 Marquand, John Phillips (American novelistl, M:216

Marquesas Island | South Pacific Ocean], M:216 with picture

Marquess [title], M:217 Duke, D:341

Nobility (In the United Kingdom),

N:236

Peer of the realm, P:244 with picture Marquette, Jacques [French explorer],

Canada, History of The royal province), C:98

lowa, 1:331 Jesuits, 1:95 Jolliet, Louis, J:137

Missouri River, M:514 New France (Exploration and settle-

ment), N:112

Marquis

See Marquess

Marquis de Castries (ship) Du Fresne, Marion, D:340

Marquis von Keith, The lplay by

Wedekindl Wedekind, Frank, W:129

Marrakech [Morocco], M:217 Marram grass, M:217

Marriage, M:217 with pictures See also list of Related Articles Adolescent (Social development),

A:53; (Preparation for the future) A:56

Africa, A:126, A:131

Anthropology (Early anthropological thought), A:453 Gretna Green, G:371

India (Way of life), 1:62 Indian, American (Family life), 1:138

Roman Catholic Church, R:337 Sex, S:291

Marriage à la Mode [play by Dryden] Dryden, John, D:327

Marriage Act [1753]

Pelham, Henry, P:247 Marriage à la Mode [painting by Ho-

Hogarth, William, H:241 with picture Marriage and Morals [book by Russell] Russell, Bertrand, R:461

Marriage by proxy

Marriage (Laws concerning marriage),

Marriage (Laws concerning marriage), M:218

Marriage licence

Genealogy, G:75

Marriage (Laws concerning marriage), M-218

Marriage of Figaro, The opera by Mozarti

Mozart, Wolfgang Amadeus (His works), M:682

Opera, 0:471

Marriage of Figaro, The Iplay by Beaumarchaisl

Beaumarchais, Pierre Augustin Caron de, **B:175**

French literature (The Age of Reason), E:448

Marriage of Heaven and Hell, The lwork by Blakel

Blake, William, B:383

Marriage of Mr. Mississippi, The (play by Dürrenmattl

Dürrenmatt, Friedrich, D:356

Marriage of the Virgin | painting by Ra-

Raphael (His works), R:138 with picfure

Marric, J. J.

See Creasey, John

Marron [fish], M:220

Marrow [anatomy]

Anaemia (Insufficient production of red blood cells), A:347

Biopsy, B:313

Blood (Formation of new blood components), B:398

Bone (Structure of the bones), B:446 Human body (The skeletal system),

H:351

Leukaemia, L:195 Osteomyelitis, 0:513

Marrow [plant], M:220

Marryat, Frederick (English author), M:220

Mars (planet), M:220 with pictures Astronomy (The solar system), A:689 Earth (The earth as a planet), E:18

Exobiology, E:415 Life (The search for life on other planets), L:250

Magnetism (The magnetism of other

astronomical bodies), M:57

Planet, P:533 with picture

Space exploration, So:128; (Probes to Mars) So:144; picture on So:143; (Sending people to Mars) So:162

Mars [Roman mythology], M:220 Mythology (table), M:758; (Roman divinities) M:759; (Romulus and

Remus) M:759 Quirinus, Q:30

Romulus and Remus, R:385 Tuesday, T:436

Mars 3 [space probe] Mars (Flights to Mars), M:223

Australia (Native animals), A:768 with

steelmaking), 1:401 Space exploration (Probes to Mars), Martin, José de San (Argentine gen-Conservation (Australasia), Cl:303 So:144 Cuscus, Ci:505 eral) Marsden, Samuel [English clergyman], Argentina (Independence), A:561 with Diprotodon, D:185 M:223 Kangaroo, K:185 with pictures picture New Zealand, History of (The mission-Martin, Pierre [French steelmaker] Mammal, M:133 with picture; (table) aries), N:167 Iron and steel (The birth of modern Marsden, William [East India Company steelmaking), I:401 Native cat. N:46 with picture official), M:224 Martindale: The Extra Phar-Marseillaise [anthem], M:224 Opossum, 0:477 macopoeia Possum, P:710 with picture Marseille [France], M:224 with picture Prehistoric animal (Mammai), P:747; Pharmacopoeia, P:358 Marsh, M:224 (The distribution of mammals) Martineau, Harriet (British writer). Wetland, W:200 M:232 Marsh calla [plant] P:748 Reproduction (Mammals), R:224 Martini, Simone Calla, C:40 See Simone Martini Marsupial cat, M:229 Marsh gas Marsupial (Kinds of marsupials), M:228 Martinique, M:233 with picture Methane, M:382 Windward Islands, W:272 with picture Marsh grapefrult Grapefruit, G:298 Marsupial mole **Martinmas** Mole, M:531 Quarter days, Q:8 Marsh hen Marsupial mouse Martins, Peter (Danish-born dancer), See Coot Marsupial (Kinds of marsupials), M:228 Marsh mallow, M:225 with picture Martinson, Harry Edmund (Swedsh Marsh, Dame Ngaio (New Zealand with picture writer] Marsuplum writer], M:224 with portrait Nobel Prizes (Literature), N:233 New Zealand (Arts), N:156 Marsupial, M:227 Sweden (Literature), So:467 Marsh, Reginald (American artist), Martel, Charles Martius (month) See Charles Martel Calendar (Ancient calendars), C:35 Marsh, Rodney [Australian cricketer], Martello towers, M:229 with picture Marten lanimall, M:230 with picture **Маг**іут, М:234 M:225 Roman Catholic Church (The early Marshal [title], M:225 Fur (table), F:488 church), R:338 Marshall Islands, M:226 Martens, Conrad | Australian artist), Pacific Islands (Micronesia), P:3; (table) M:230 Saint, **\$:27** Marvel-of-Peru (plant) P:9; map on P:10; (Recent devel-Australia, Art and architecture of (Co-Four-o'clock, F:376 opments) P:13 Ionial painters), A:782 Marvell, Andrew (English poet, M23) Marshall Plan, M:227 Queensland picture on, Q:25 Marx brothers [American comedians] Europe (Postwar Europe), E:391 Martí, José julián (Cuban patriot), M:236 with picture Marshall, George Catlett, M:228 M:230 Marx, Adolph [American comedian] Organization for Economic Coopera-Cuba (Struggle against Spain), Ci:480 Marx brothers, M:236 with picture tion and Development, 0:495 Latin-American literature (Modernism), Marx, Chico (American comedian) Marshall, Alan [Australian writer] Marx brothers, M:236 with picture Australia, Literature of (Modern short Martial arts, M:230 with picture Marx, Groucho (American comedian) stories), A:832 Karate, K:194 with picture Marx brothers, M:236 with picture Marshall, Alan (Australian author), Martial [ancient Roman writer], M:230 Marx, Harpo iAmerican comedian M:226 Epigram, E:312 Marx brothers, M:236 with picture Marshall, Alfred [British academic], Latin literature (The Imperial Period), Marx, Julius (American comedian) M:226 L:99 Marx brothers, M:236 with picture Marshall, David [Singapore lawyer], Martial law, M:231 Marx, Karl (German philosopher), M:226 Bushrangers, B:671 M:234 with portrait Marshall, George Catlett | American Martian Chronicles, The Age of Reason (Criticism of the Age of soldier], M:226 Bradbury, Ray, B:505 Reason), A:157 Marshall Plan, M:227 Capitalism (Changing attitudes toward Martin, M:231 with picture Marshall, lack Martin Chuzzlewit [book by Dickens] capitalism), **C:146** New Zealand (National dominance), Dickens, Charles (The first phase), Caricature picture on, C:199 Communism, Cl:238 with portrait Marshall, James Vance (Australian au-Martin du Gard, Roger (French author), Economic determinism, E:59 thor), M:226 Economics (Karl Marx and Commir Marshall, Jock [Australian author], Nobel Prizes (Literature), N:232 nism), E:65 M:226 Martin-Harvey, Sir John (British actor-Engels, Friedrich, E:253 Government (Modern times), G:276 Marshall, Sir John (English archaeolomanager], M:232 qist) Martin of Tours, Saint, M:232 International, The, 1:288 Archaeology (The 1900's), A:504 Martin Rattler (book by Ballantyne) Lenin, V. I., L:169 Marston Moor, Battle of Ballantyne, R. M., B:45 Materialism, M:254 Philosophy (Philosophy in the 1800s). Civil War, English (In 1644), Ci:45 Martin V [pope], M:232 Marston, John [English playwright], Pope (The troubles of the papacy), Political science (Democracy and 50° M:227 Marsupial, M:227 with pictures Roman Catholic Church (The Great cialism), P:654 Schism), R:341 See also list of Related Articles Ricardo, David, R:260 Animal (Providing shelter), A:408; pic-Sigismund, S:414 Marx, Leonard (American comedian) ture on A:407 Martin, Émile [French steelmaker]

Iron and steel (The birth of modern

Mason and Dixon's Line, M:243 Marx brothers, M:236 with picture Masada [jewish history], M:239 with pic-Mason bee Marxism Bee. B:190 with picture Communism (The ideas of Marx), lews (Roman rule), J:114 Masonry [organization], M:243 Masai Ci:239 Masonry dam Africa picture on, A:117 Economic determinism, E:59 Dam (Kinds of dams), D:12 Clothing picture on, Ci:88 Marx, Karl, M:234 Kenya (Way of life), K:225 with picture Masons Russia (Nicholas II), R:489 Magic (During the Middle Ages), M:46 Masaryk, Jan Garrigue [Czech states-Union of Soviet Socialist Republics Mozart, Wolfgang Amadeus (His style), man], M:240 (Background of the Revolution), M:682 Masaryk, Tomáš (Czech political Mason's level leaderi Mary [book by Asch] Czech Republic (The creation of Level, L:196 Asch, Sholem, A:619 Masou salmon Czechoslovakia), Cl:521 Mary (mother of Jesus), M:236 Salmon (Kinds of salmon), \$:53 with Czechoslovakia (Independence), See also list of Related Articles picture Ci:524 Annunctation, A:425 Masquat Masaryk, Tomáš Garrigue (Czech po-Assumption, A:674 See Muscat litical leader], M:240 with portrait Immaculate Conception, 1:35 Masque, M:244 Masbate lesus Christ (The Nativity), J:96 with Drama (Elizabethan playwrights), Philippines (The main islands), P:380 picture D:292 with picture Mascagni, Pietro Italian composeri, Joseph, J:146 Jones, Inigo, J:139 M:240 Madonna and Child, M:33 with picture Mask (Theatrical masks), M:243 Opera (Cavalleria Rusticana), 0:469 Sculpture (later medieval sculpture), Milton, John (His early life and works), Mascarin (ship) M:476 Du Fresne, Marion, D:340 Mary, Queen of Scots, M:237 with por-Masquerade, M:244 Mascon Masquerade [art form] Space exploration (Lunar probes), Bothwell, Earl of, B:482 Montserrat (People), M:581 So:143 Damley, Lord, D:37 Mass (art) Masculine Elizabeth I, E:213 Painting, P:36 with picture Knox, John (Later career), K:310 Gender, G:74 Sculpture (Form and treatment), S:191 Noun (Gender), N:309 Scotland, History of (The Renaissance Masefield, John (English poet), M:240 Mass [music] kings), S:171 Classical music (Choral music), Cl:57 with portrait Mary, Virgin Mass [physics], M:244 Masekela, Hugh (South African musi-See Mary See also list of Related Articles Mary I [queen of England], M:236 with cian], M:241 Atom (The nucleus), A:724; (The mass Maser [device], M:241 portrait number) A:725 Prokhorov, Alexander Mikhailovich, Elizabeth I (Early years), E:212 E=mc2, E:2 England (The English Reformation), Falling bodies, Law of, F:15 Townes, Charles Hard, T:319 Gravity, Centre of, G:310 Maseru [Lesotho], M:241 Grey, Lady Jane, G:372 Jupiter (Mass and density), J:171 Mash Ireland, History of (Under Mary Metric system, M:386 Alcoholic beverage (Beer), A:237 Tudor), 1:370 Relativity (Special theory of relativity), Brewing (Mashing), 8:555 Reformation (In England), R:182 R:191 Tudor, House of, T:436 Distilling, D:204 Venus (Mass and density), V:341 Maize (The fermentation and distilling Mary II Iqueen of Englandl, M:237 Weight, W:133 industry), M:75 England (The Restoration), E:279 Mass [religion], M:244 Whisky, W:229 William III, W:255 Holy Grail (The search for the Grail), Mashonaland [province, Zimbabwe] Mary Magdalene (Biblical figure), Zimbabwe (Local government), Z:494 H:251 Liturgy, L:332 Mask [disguise], M:241 with pictures lesus Christ (The Resurrection), J:101 Pope (The daily life of the pope), P:675 Africa (Sculpture), A:134 with picture Mary of Teck Iqueen consort of En-Religion picture on, R:196 Drama picture on, D:287 gland), M:237 Roman Catholic Church, R:336 with Sculpture (African sculpture), S:202 Edward VIII, E:94 picture with picture; (Pacific Islands sculp-Mary Celeste [ship], M:237 Transubstantiation, T:363 Mary Rose iplay by Barriel ture) S:1204 Mass for Christ the King work by Wil-Barrie, Sir James Matthew, B:119 Tutankhamen, T:476 with picture liamsonl Mary Rose [ship], M:238 with picture Mask (dragonfly) Williamson, Malcolm, W:259 Maryborough [Australia], M:238 Dragonfly, D:279 Mass in B minor [music] Maryknoll Mask, Catcher's Bach, Johann Sebastian (His works), Baseball (Equipment), B:125 with pic-See Missionary Maryland [U.S.A.], M:238 with map B:16 Mass in G [music by Poulenc] United States, History of the, U:238 Masked wood swallow Poulenc, Francis, P:726 Marylebone Cricket Club (MCC) Wood swallow, W:302 Mass media Cricket (Administration), Cl:428; (His-Mason |craftsman| See also Advertising; Communication

Building trade, B:630

Mason, A. E. W. [English author], M:243

Mason and Dixon's Line, M:243

Mason [freemason]

Mason, Charles

Masonry, M:243

Mass movement

Mass number

Atom, A:725

Earth, E:23 with picture

Element, Chemical (Development of

tory) Cl:430

Masaccio Italian painteri, M:239 with

Painting (Early works), P:34 with pic-

Renaissance (The fine arts), R:217

Mastectomy, M:248

Cancer (Surgery), C:122

ations), So:438

Surgery (Some common surgical oper-

Sex (Puberty), S:290 the periodic table), E:200 Master title! Masvingo (province, Zimbabwe) Ship (Officers and crew), S:382 Isotope, I:427 Zimbabwe (Local government), ZMM Master Builder, The play by Ibseni Nuclear energy (Isotopes), N:320 Mata Hari (Dutch spyl, M:250 Drama (Modern drama), D:298 Mass production, M:245 Matabeleland [province, Zimbabwe] Aeroplane, A:104 with picture Ibsen, Henrik, 64 Zimbabwe (Local government), 7,494 Master control Car (Manufacturing engineering), Television, T:125 Matador C:161 with picture; (History of the Bullfighting, B:640 with pictures Master controller car) C:166 with pictures Matagali Electric railways (Kinds of electric rail-Mass Rapid Transit (MRT) ways), E:163 Fiii (Population and ancestry), F:76 Singapore (Transportation and com-Mataram munication), S:445 with picture Master gland Indonesia (Dynasties and temples), Gland (Endocrine glands), G:182 Mass spectrograph 1:192 Aston, Francis William, A:679 Human body (The endocrine system), Match [fire], M:250 with pictures Dempster, Arthur Jeffrey, D:106 Hypothalamus, H:417 Fire (Methods of starting fires), F126 Mass spectrometer Pituitary gland, P:528 with diagram Matchmaker, The Iwork by Wilder Ion microscope, I:326 Mass spectroscopy, M:245 with dia-Wilder, Thornton Niven, W:250 "Master Harold" . . . and the Boys [play by Fugard] Mate [title], M:252 gram Fugard, Athol, F:480 Ship (Officers and crew), \$:382 Molecule (Individual molecules), Master lacquer Maté [drink], M:252 with picture M:534 Argentina (Food and drink), A:556 Record player (Transferring the re-Mass spectroscopy, M:245 with dia-Brazil (Food and drink), B:534 cording to a disc), R:164 gram Latin America (Food and drink), L82 Master Mariner and Arctic Explorer Ion microscope, 1:329 Mate [plant],, M:252 Isotope (Separating isotopes), 1:427 (book by Bernier) Paraguay (Food and drink), P:163 Mass spectrum Bernier, Joseph Elzéar, B:259 Uruguay (Food and drink), U:282 Master of Ballantrae, The [book by Mass spectroscopy, M:245 Material culture Massachusetts Bay Colony, M:247 Stevenson Cultural lag, Ci:489 Massachusetts, M:246 Stevenson, Robert Louis (Novels), Material handling machinery Massachusetts (U.S.A.), M:245 with map So:322 Construction equipment (Hoisting and Master of Flémaile "Massachusetts to Virginia" (poem by material-handling machinery), Campin, Robert, C:64 Whittier] Ci:310 with pictures Whittier, John Greenleaf, W:240 Master of the queen's music kitle, Material lift **Massacre of Saint Bartholomew's** M:248 Construction equipment (Hoisting and Master of the rolls, M:248 material-handling machineryl, See Saint Bartholomew's Day, Massa-Master plan Cl:310 cre of Town planning, T:316 Materialism [philosophy], M:252 Massacre of the Innocents, The Master station Idealism, I:26 isculpture by Pisanol Navigation (Loran), N:54 Marx, Karl (Marx's theories), M:235 Sculpture (Italian Renaissance sculp-Master tape Philosophy (Metaphysics), P:420; ture), S:210 with picture Record player (How gramophone rec-(table) P:421 Massage, M:247 ords are made). R:164 Materialistic physiology Massalla Masterman Ready (book by Marryat) Biology (Materialistic physiology and See Marseille Marryat, Frederick, M:220 the cell theory), B:307 Massenet, Jules [French composer]. Master's degree Materials, M:252 See Degree, University and college Materials engineering Massey, William Fergusson New Zea-Masters, Edgar Lee |American author), Engineering, E:257 land political leader) New Zealand, History of (The Liberal Materials science American literature (Realist poetry), See Metallurgy era). N:172 A:317 Maternity (play by Brieux) Massif Central Mastersinger, M:248 Brieux, Eugene, B:570 Europe (The Central Uplands), E:371 German literature (Popular literature). France (The Central Highlands), F:404 Mateship Convicts in Australia (The conviction Massine, Leonide [Russian dancer], Mastersingers of Nuremberg, The acy), Ch:325 M:247 [opera by Wagner] Mathematical model Massinger, Philip [English playwright], Engineering (Industrial engineering) Wagner, Richard (Later career), W:3 M:247 Masterson, Bat [American frontiers-Massive astrophysical compact halo man), M:249 Systems analysis, So:526 Mathematical Principles of Natural object (MACHO) Mastic [resin], M:249 Philosophy [book by Newton] Dark matter, D:35 Caulking, C:281 Masson, André [French artist] Mastication, M:249 Physics (Newton), P:475 Painting (Surrealism), P:83; picture on Mastiff [dog], M:249 Mathematical symbol Algebra (Symbols in algebra), A225 P:84 Dog picture on, D:230 Surrealism, So:442 Mastodon, M:249 with picture Mathematics, M:255 with pictures and Elephant (Protecting elephants), E:207 Mastaba Mastoid (anatomy), M:249 Pyramids (Egyptian pyramids), P:872

Mastoiditis (disorder)

Homosexuality, H:258

Mastoid, M:251

Masturbation

diagrams

grams

See also list of Related Articles

Cuisenaire Method, Ci:488 with dis

Kepler, Johannes, K:231 Multiplication, M:694 with diagrams New mathematics, N:117 Numeration systems, N:344 Science (Mathematics and logic), S:139; (Expressing findings mathematically) S:142 Set theory, S:274 with pictures and diagrams Sieve of Eratosthenes, S:414 Mathematics for the Million (book by Hogben, Lancelot, H:242 Mathematike Syntaxis (book by Ptolemyl Ptolemy, P:833 Mather, Cotton, M:262 American literature (New England), Mather, Increase (American religious leaderl, M:262 Mather, Richard [English-born religious leader), M:261 Mathew, Theobald [Irish priest], M:262 Mathews, D. H. [British geophysicist] Continental drift (Causes of continental drift), Cl:316 Mathlas, William James (Welsh composer), M:262 Mathleu, Albert (French mining engineer English Channel, E:280 Mathis der Maler (work by Hindemith) Hindemith, Paul, H:208 Mathura [India]

Uttar Pradesh (Places to visit), U:291 Matlida idaughter of Henry I) David I, D:45 Plantagenet, P:573 Stephen, So:316 Matilda (wife of Henry I) Henry I, H:151 Meting Bird, B:343 with picture

Frog, F:466 Mammal, M:131 Matisse, Henri [French painter], M:262 with portrait and pictures

Fauves, F:38 Painting (Fauvism), P:79 with picture Stein, Gertrude, So:312

Mato Grosso Brazil (History), B:543 Matra, James Marto (American sea-

man), M:263 Matrah (Oman)

Oman, 0:448 Matreshka

Doil (Traditional dolls), D:244 with pic-

Matriarch

jews (Beginnings), J:112 Matriarch (animal)

Elephant (Elephant families), E:205 picture on E:202

Matriarchal system Family (Traditional families in other

cultures), F:23 Matrilineage

Africa (Marriage and the family), A:131 Sumatra (people), So:405

Matrimonial Causes Act, 1937 Herbert, Sir Alan Patrick, H:161

Matrix (anatomy) Nail. N:5

Matrix [electronics]

Television (Amplifiers and separators), T:132

Matrix (printing)

Linotype (How the linotype works),

Monotype (How the monotype works), M:570

Printing (Typesetting), P:781 Stereotyping, So:318

Smelting, S:497 Matter, M:263 with picture

See also list of Related Articles Anaxagoras, A:351 Berkeley, George, B:244 Mechanist philosophy, M:303 Nuclear energy (The composition of matter), N:320

Matter wave

Born, Max, **B:469** Quantum mechanics (Understanding quantum mechanics), Q:6

Matterhorn (mountain), M:264 with pic-

Mountain (table), M:668 with diagram Matthals, Joseph ben

Josephus, Flavius, J:148 Matthew, Gospel of [New Testament]

Bible (Books of the New Testament), B:273

Gospels, G:262 Jesus Christ, J:96 Talent, T:16

Matthew, Saint, M:265 Gospels, G:262

Jesus Christ (Ministry), J:98

Matthews, Denis (English planist), M:265

Matthews, Sir Stanley British footballer), M:265 with picture **Matthias Corvinus**

Hungary (The Kingdom of Hungary), H:381

Matthias, Saint, M:265 Mattioli, Rocco (Australian boxer)

Boxing (World titles), B:498 Mattock (tool)

Colonial life in America (Farming),

Ci:184 with picture Mattress

Bed. B:179

Matura, Mustapha (West Indian-born writerl, M:265

Maturational theory Developmental psychology, D:144

Matzah Bread picture on, B:548

Passover, P:211 Mau Mau, M:266

Kenya (Opposition to the British), K:230

Maugham, W. Somerset (British

writer], M:266

Maui [island]

Hawaii (Land), H:81 Maul (legendary figure)

Mythology (Pacific Islands divinities), M:761

Mauna Kea [volcano], M:266

Mountain, M:665; (table) M:668 with diagram

Mauna Loa (volcano), M:266

Hawaii (Land), H:80

Mountain (table), M:668 with diagram Volcano (Shield volcanoes), V:418 with picture; (table) V:419

Maunder minimum

Sunspot (Recent findings), So:427 Maunder, E. Walter (British astrono-

merl Sunspot (Recent findings), So:427

Maundy money, M:266

Yeomen of the Guard, Y:451 Maundy Thursday, M:267

Easter, E:43

Holy Week, H:252

Maupassant, Guy de See De Maupassant, Guy

Maurer, Ion Gheorghe Iprime minister of Romanial, M:267

Mauretania

Moors [people], M:599 Rome, Ancient (map), R:378

Mauriac, François (French author), M:267

Maurice (book by Forster) Forster, E. M., F:363

Mauritania, M:267 with picture and

Africa (Ways of life In northern Africa), A:125

Flag picture on, F:201

French West Africa, F:454 with map Morocco (Dispute over Western Sahara), M:616

Western Sahara, W:190

Mauritius, M:269

Dodo, D:221

Flag picture on, F:201 Port Louis, P:694

Maurois, André (French author), M:271 Biography (Modern biography), B:302

Maurya Empire, M:271

Goa (History), G:220 Karnataka (History), K:198

Sculpture (India), S:197

West Bengal (Early empires), W:160

Mauser 1898 rifle Rifle picture on, R:275

Mausoleum at Helicarnassus (Turkey) Seven Wonders of the Ancient World,

S:282; picture on S:281

Mausoleum Tomb, T:292

Mausoleum of Augustus

Rome (Other remains), R:368 Mauve [dye], M:271

Dye (History), D:362 Mave, Queen

Irish literature (The Ulster cycle), I:381 Mythology (The Irish cycles), M:760

Maverick, Samuel Augustus (American pioneerl, M:271 Mayor, Osborne Henry (Scottish writer Bridie, lames, B:570

Scottish literature (After 1900), \$:177 Mawenzi [mountain, Tanzania]

Kilimaniaro, K:248 Mawson, Sir Douglas iAustralian geol-

ogisti, M:271 with portrait and map Max Carrados (book by Bramah)

Bramah, Ernest, B:521

Maxillae (anatomy) Ant (The head), A:428 Face, F:3

Insect (Mouth parts), 1:248 Maxillary sinus (anatomy) Sinus, S:455 with diagram

Maxim, Hiram Percy (American inventorl. M:272

Maxim, Hudson [American inventor], M:272

Maxim, Sir Hiram Stevens | Americanborn inventor, M:272 Aeroplane (Powered flight), A:77 Machine gun (History), M:15 with pic-

Maximilian (emperor of Mexico), M:273 Napoleon III (Foreign affairs), N:24

Maximilian I (Holy Roman emperor), M:273

Austria (The Habsburgs), A:865 Habsburg, House of, H:3 Maxims of the Saints (book by Fénelon)

Fénelon, François de Salignac de la Mother, F:51 Maximum security prison

Prison (Types of prisons), P:789 Maximus Poems, The [poetry by Olson]

American literature (Poetry), A:319 Olson, Charles, 0:431 Maxwell lunit of measurel, M:273

Maxwell, James Clerk (British physicisti, M:273

Communication (The beginning of the electronic age), Cl:233

Electricity (Electromagnetism), E:172 Electromagnetic waves (History), E:177

Electromagnetism, E:177 Ether (physics), E:335

Light (The electromagnetic theory), L:264

Optics (History), O:480 Physics (Developments in the 1800's),

Radar (The development of radar),

Radio (Early development), R:80; (table) R:82

Research (Basic research). R:235 Science (Scientific advances of the 1800's), S:148

May [month], M:274 with pictures May, Peter Barker Howard (English

cricketerl, M:276 May, Phil [British caricaturist], M:276 May apple, M:276

May beetle June beetle, J:168 May Day [festival], M:276 May-Day (poetry by Emerson) Emerson, Ralph Waldo, E:229 May fly

See Mayfly May Fourth Movement

Beijing (History), B:205 May tree

Hawthorn, H:88

Maya, M:276 with pictures and map Archaeoastronomy, A:498 Architecture (Pre-Columbian architec-

ture), A:520 with picture

Central America (Early history), C:319 Decimal system (Invention of the decimal system), D:71

Hieroglyphics (Other hieroglyphic writing), H:195 with picture Honduras (History), H:262; picture on

Indian, American (Literature), I:147: (Writing) 1:149; (Indians of Middle

America) I:160 with pictures Latin America (The first Inhabitants), L:87 with picture

Maize (History), M:75 Mexico (Arts), M:408; (The Classical period) M:417; picture on M:400

Sculpture (As a record of history), S:186 with picture; (As monuments and memorials) S:188; (Mature Indian sculpture) S:205

Maya [mother of] Buddha (Birth and early life), B:613 Maybach, Wilhelm (German engineer),

M:281 Daimler, Gottlieb, D:6 Mayer, Julius Robert von (German

doctori, M:281 Heat (Heat and energy), H:122

Mayer, Maria Goeppert | German-born physicist], M:281 Jensen, J. Hans, J:84

Nobel Prizes (Physics), N:227 Mayer, Sir Robert [German-born music teacherl, M:281 Mayflower Compact, M:282

Mayflower [ship], M:281 with picture Congregationalists (History), Cl:282

Essex (History), E:333 White, Peregrine, W:232 Winslow, Edward, W:276

Mayfly linsecti, M:282 with picture Animal (Interesting facts about animals), A:377 with picture Insect (table), 1:261

Mayhem [law], M:282

Mayhew, Henry [English writer], M:282 Maynooth (Ireland), M:282

Mayo [Ireland], M:283 Arms picture on, A:588

Mayo, Charles Horace (American surgeon], M:283

Mayo, William James (American surgeon], M:282

Mayo, William Worrall |American surgeon], M:282 Mayombé Escarpment

Mayon (volcano), M:284 Philippines picture on, P:377 Volcano (Composite volcanoes), Valla

with picture Mayor Ititle), M:284 Address, Forms of, A:41

Maypole May Day, M:276

May (May customs), M:274 Mayr, Ernst (American biologist) Evolution (The synthetic theory), E412

Mayson, Isabella Mary Beeton, Mrs., B:200

Mazarin, Jules Cardinal French states man . M:284 École des Beaux-Arts, E:55

Louis XIV, L:399 Maze Labyrinth, L:6 with picture

Mazowiecki, Tadeusz Iprime minister of Polandi, M:284 Poland (Recent developments), P633

Mazzini, Giuseppe Italian patrioti, Italy (The French Revolution and Napo

leon), 1:468 Mba, Leon |Gabonese political leader Gabon (History), G:4

Mbabane, M:285 Swaziland picture on, So:458

Mbari [people] Kikuyu, K:247 Mbari house Sculpture (African sculpture), \$1202

with picture Mbasogo, Oblang Nguema (military leaderl

Equatorial Guinea (History), E-316 Mbege (drink) Tanzania (Food and drink), T:33 Mbekl, Thabo | South African political

M:285 Mbemba, Nzinga [king of Kongo]

Kongo, K:316 Mbira (musical instrument)

Music (African music), M:736 M'Bochi [people]

Congo (People), Ci:280

See Mac, M:285 McAdam, John Loudon (British engl neerl, M:285 Industrial Revolution (Roads), 1215

Road (in the Middle Ages), R:299 McAuley, Alec Derwent |Australian

Australia, Literature of (Modern short stories), A:832

McAuley, James Phillip (Australian poetl, M:285

McAuliffe, Christa American estronul

Space exploration (The Challenger d saster), So:160

McBain, Ed [American writer], Mc285 McBean, Robert (Australian public fig

urel McBride, William Australian doctor

Congo (Land), Ci:280

M:285 McCaig, Norman (Scottish writer) Scottish literature (After 1900), S:177

McCarthy, Joseph Raymond [American senatori, M:285 Communism (The Cold War), Ci:242

McCarthylsm, M:286 Wisconsin (History), W:280 McCarthy, Mary [American author],

McCarthylsm, M:286

M:286

Communism (The Cold War), Ck:242 McCarthy, Joseph Raymond, M:285

McCartney, Paul (British musician), MYZRA

Beatles, B:174 with picture Rock music (The Beatles), R:312 with McCarty, Henry

Billy the Kid, B:295

McClellan, George Brinton (American generall, M:286 with portrait

McClintock, Barbara American geneti-

Heredity (The birth of genetics), H:174 McClure, Samuel Sidney | American editori, M:287

McClure, Sir Robert John Le Mesurier [British explorer], M:287 Exploration (table), E:427 with map Northwest Passage, N:289

McConnell, Joseph, Jr. War aces, W:34

McCormack, John Brish tenori, M:287 Ireland (Arts), 1:356

McCormick, Cyrus Hall [American inventor], M:287 with portrait Agriculture (The invention of new farm

equipment), A:173 with picture Reaper, R:161

Wheat (The mechanization of wheat farming), W:224 McCormick's skua

Bird picture on, B:336

McCoy, Elijah (American engineer), M:288

McCrae, George Gordon (Australian writer]

Australia, Literature of (The development of poetry), A:830

McCrae, Hugh [Australian writer] Australia, Literature of (Other poetry), A:831

McCrae, Hugh |Australian poetl, M:288 McCrae, John [Canadian doctor], M:288

Remembrance Day, R:211 McCubbin, Frederick Australian

painterl, M:288 Heldelberg School, H:134

McCullers, Carson (American author), M:288 with portrait

American literature (Fiction and other prose), A:320

McCullough, Colleen Australian author], M:288

McDonnell Douglas Corporation Douglas, Donald Wills, D:272

McDougall, William (British psychologistl, M:289

McDougall, William (Canadian government official

Red River Rebellion, R:173

McDowell, Ephraim | American surgeonl

Surgery (History), So:439

McEnroe, John American tennis playerl, M:289 with portrait Tennis (table), T:147; (table) T:148;

(Tennis today) T:149 with picture

McEwen, Sir John (Australian political leader!, M:289 with portrait

McGahern, John [Irish writer]

Irish literature (Irish literature today),

McGee, Travis [literary figure], M:7 McGinness, P. J. [Australian aviator]

Aeroplane (The golden age), A:80 McGonagall, William (Scottish poet),

McGuffey, William Holmes (American teacher], M:289 with picture

McGuigan, Barry [Irish boxer] Boxing (Professional boxing), B:498

McIlwraith, Sir Thomas (Australian political figure], M:290

Federation of Australia (Growing national awareness), F:45

McIndoe, Sir Archibald [New Zealand plastic surgeon), M:290

McIntosh, Hugh D. [Australian boxer] Boxing (Boxing In Australia and New Zealand), B:498

McKay, Donald (Canadian shipbuilder) Clipper ship, Cl:84 Ship (Clipper ships), \$:370

McKay, Heather (Australian squash playerl, M:290

McKay, Hugh Victor (Australian inventorl, M:290

McKell, Sir William | Australian statesmanl, M:290

McKenna, Slobhán Ilrish actress), M:290

McKinlay, John (Australian explorer), M:290

McKinley, Mount See Mount McKinley

McKinley, William (U.S. president), M:290

New York (History), N:141 Populism (The People's Party), P:687

McKuen, Rod (American poet), M:290 McLeilan, Robert (Scottish writer)

Scottish literature (After 1900), S:177 McLuhan, Marshall (Canadian writer),

M:290

McMahon, Sir William [Australian political leader), M:291 Australia, History of (Politics), A:824

McMath solar telescope

National Optical Astronomy Observatories, N:36 Sun picture on, So:420

McMilian, Angus (Scottish-born explorerl, M:291

McMillan, Edwin M. [American chemist Neptunium, N:79

Nobel Prizes (Nobel Prize for chemistry, 1951), N:229

453

Plutonium, P:605 Synchrotron, So:517

McMillan, Margaret British social reformer), M:291

Nursery school (The teacher's role), N:354

McMillan, Rachel British social reformer]. M:291

Nursery school (The teacher's role), N:354

McMurdo Station

Antarctica (Antarctica today), A:446; picture on A:445

McNamara, Francis (Australian writer) Australia, Literature of (The development of poetry), A:830

McNamara, James B. (American union leaderl

Darrow, Clarence Seward, D:37 McNamara, John J. [American union leaderl

Darrow, Clarence Seward, D:37 McTeague (book by Norris)

Norris, Frank, N:245 Md [symbol]

Mendelevium, M:345

MDMA (drug)

Drug abuse (Ecstasy), D:321

Me and juliet imusical by Hammerstein Hammerstein, Oscar, II, H:32

Mead [drink], M:291

Mead, Herbert George (American psychologistl

Social psychology, So:4

Mead, Margaret | American anthropologistl. M:291 with portrait Anthropology (Development of field

research), A:453 with picture Meade, George Gordon (American

generall, M:291 with portrait American Civil War (Battle of Gettysburg), A:307

Pennsylvania (History), P:264

Meadow

Forest (Forest succession), F:351

Meadow grass Timothy, T:258

Meadow saffron

Colchicum, Ci:158

Meadow-stream pond Pond (Kinds of ponds), P:667

Meadowiark, M:292

Meals

Cooking, Cl:334

See also Diet; Food; Nutrition

Mean (mathematics), M:292 Average, A:877

Median, M:305

Statistics (Probability), So:303

Mean solar day

Time (Measuring time by the sun), T:256

Meander

River (The channel of a river), R:289 Meaning of Art, The work by Read Read, Sir Herbert, R:149

Meaning of Meaning, The book by

Richards Richards, I. A., R:268 Meaning of Treason, The book by West West, Dame Rebecca, W:156 Measles, M:292 Disease (table), D:190 Measure [music] Music (Indicating time values), M:733 Measure [weight] See Weights and measures Measure for Measure Iplay by Shake-Shakespeare, William, S:318 Measurement, M:292 See also list of Related Articles Laser (Measuring), L:71 with picture Time (Measuring time), T:256 Touch, T:310 Measurement of Intelligence, The (book by Thorndike) Thorndike, Edward Lee, T:226 Measuring instruments Instrument, Scientific, 1:268 with pic-Measuring tool Woodworking picture on, W:308 Measuring worm, M:296 with picture Measuringworm moth Moth picture on, M:642 Meat, M:297 See also list of Related Articles Chicken (Producing meat), C:400 Food (Food from animals), F:295 Meat extract [food], M:299 Meat processing, M:299 Meath Ireland, M:301 with picture and map Arms picture on, A:588 Mecca [Saudi Arabia], M:302 with pic-Islam (Pilgrimages to Mecca), 1:416 lidda, I:118 Kaaba, K:178 Muhammad (The Hegira), M:686 Religion (Islam), R:205 Saudi Arabia (Religion), S:105; picture on S:107 Mechanical advantage Block and tackle, B:391 with picture Lever (Law of equilibrium), L:197 Machine, M:12 with picture Wheel and axle, W:226 Mechanical brake Brake, B:520 with diagram Mechanical calculator Calculator, C:24 Mechanical clock Clock, Ci:85 with picture; (History) Ci:85 Mechanical control Weed (Weed control), W:131 Mechanical drawing See Technical drawing

Mechanical energy

H:120

Diesel engine, D:168

Energy (Forms of energy), E:245

Heat (Changing heat into motion),

Mechanical engineering Engineering, E:257 with picture Mechanical equivalent of heat Heat (Heat and energy), H:122 Mechanical refrigeration Refrigeration, R:185 Mechanical remote control Remote control, R:213 Mechanical royalty Recording industry (Releasing the recording), R:167 Mechanical watch Watch. W:66 with picture Mechanics [physics], M:303 Biomedical engineering (Biomechanics), B:312 Physics, P:473 Mechanist philosophy, M:303 Philosophy (Metaphysics), P:420; (Rationalism) P:424 Mechanistic materialist physiology Biology (Materialistic physiology and the cell theory), B:307 Mechanization Automation, A:872 with picture Coal (Mineworkers), Ci:130 Technology (Technological unemployment), T:87 Mecklenburg [Germany], M:303 Mecoptera [entomology] Insect (table), 1:262 Medal Decorations, medals and orders, D:73 with pictures Insignia, 1:265 Nobel Prizes pictures on, N:226, N:227 Olympic Games, 0:435 Sculpture (Early Renalssance), S:211 Medals Olympic games, 0:433 Medan [Sumatra], M:303 with picture Medan Merdeka lakarta (The city), J:13; (Places of interest) 1:13 Medawar, Sir Peter Brian Burnet, Sir Macfarlane, B:662 Medea [Greek mythology], M:304 Medea (play by Euripides) Drama, D:287 Euripides, E:354 Medellin (Colombia), M:305 Medes (ancient people) Armenia (History), A:580 Azerbaijan (History), A:897 Media, M:305 Persia, Ancient (Early civilization), World, History of the (Middle Eastern civilizations), W:336 Medfly See Mediterranean fruit fly Media [ancient country], M:305 with Media (communications) Advertising (Ways of advertising), A:61 Magazine, M:40

Newspaper, N:180

Television, T:118

Medial moraine

Glacier (Glacial deposits), G:175 with diagram Median (statistics), M:305 Average, A:877 Mediator International relations (Diplomace) 1:293 Medical bathing Bath, **B:150** Medical care Health (Medical and dental care), Has Medical education Medicine, M:310; picture on M:312 Medical entomology Entomology (What entomologists studyl, E:298 Medical research Medicine (The role of medical research), M:310 with pictures, (the beginnings of modern research M:315 Medical school Medicine (The Middle Ages), M:314 Medici (ruling family of Florence), M:305 Florence (History), F:232 Medici Lorenzo the Magnificent [Florentine ruler], M:305 Medici Madonna isculpture by Michelangelol Madonna and Child, M:34 Medici, Cosimo dé Florentine rulei. M:305 Medici, Giovanni dé (Florentine rule) M:305 MediciLorenzo de fruier of Florente Michaelangelo, M:433 Medicine, M:306 with pictures See also list of Related Articles Aerospace medicine, A:107 Australian Aborigines (Magic and Ab original doctors), A:836 Genetic engineering (in medicinal G:81 Greece, Ancient picture on, G:330 Invention (Social needs), 1:311 Isotope (Uses of radioIsotopes), bill Laser (Heating), L:71 Living will, L:339 Nobel Prizes (Nobel Prizes for physical ogy or medicine), N:230 Ocean, 0:390 Plant, P:542 Psychosomatic medicine, P:831 Radioactivity (in medicine), Ras with diagrams Space exploration (Protection against the dangers of space), So:135; pt ture on So:136 X rays, X:429 with pictures Medicine, Patent See Patent medicine Indian, American (Shamans, priests, Medicine man and prophets), I:148 Magic (The Magician), M:45 Medicine Man Isculpture by Dallini Dallin, Cyrus Edwin, D:11 Médicls, Catherine de

Plant (Sexual reproduction), P:556 Adrenal gland, A:57 with diagram Catherine de Médicis, C:266 Megatherlum Emetic. E:229 Medieval drama Prehistoric animai picture on, P:747 Hair (The structure and growth of hair), Drama, Dr288 with pictures Meghaduta (poem by Kalidasa) Medieval period India, Literature of (Classical Sanskrit Kidney (How the kidneys produce See Middle Ages literature), 1:125 urine). K:244 with diagrams Medieval philosophy Meghalaya [India], M:325 with picture Nausea, N:51 Philosophy, P:424 and map Medulla oblongata Medieval times Meghna lriver History (The divisions of history), Brain (The brain stem), B:512 Bangladesh (Rivers and streams), B:86 Medullary cavity H:224 Megillot Bone (Structure of the bones), B:446 Medil, Joseph (American editor), Old Testament (The Writings), 0:427 Medusa [Greek mythology], M:323 with M:320 Meherangarh Fort (Jodhpur) picture Medina Castle picture on, C:240 Cameo picture on, C:54 Morocco (Way of life), M:612 Mehmet Ail Gorgons, G:258 Medina lisle of Wightl, M:321 See Muhammad All Wight, Isle of (Local government), Pegasus, P:245 Mehta, Zubin (Indian conductor), M:326 Perseus, P:291 with portrait Medusa (sea animai) Medina (Saudi Arabia), M:321 Melii (title) Cnidarian, Ci:118 Hegira, H:133 Japan, J:57 fellyfish, J:82 Muhammad (The Hegira), M:686; (In Mutsuhito, M:747 Medina) M:686 with picture Medway [river] Meill Shrine Kent (Rivers), K:221 Medina Sidonia, Duke of [Spanish mill-Religion picture on, R:204 Meer, Simon van der [Dutch physicist] tary leader) Tokyo (Shrines and temples), T:284 Spanish Armada (The two fleets), CERN, C:329 with picture Meerkat (animal), M:324 with picture So:190: (The battle) So:191 Meikle, Andrew (Scottish inventor) Animal picture on, A:410 Maditation Threshing machine, T:230 Meerschaum Iclayl, M:324 Buddhism, B:617 Meilhac, Henri (French librettist) Pipe, P:515 with picture Religion (Religious rituals), R:199 Opera (Carmen), 0:468 Meet Me in the Green Glen work by Transcendental Meditation, T:338 Mein Kampf (book by Hitler), M:326 Warren Meditation | ballet Hitler, Adolf, H:229 Warren, Robert Penn, W:40 D'Amboise, Jacques, D:17 Meeting Meditations on Quixote book by Or-Cell. C:297 with pictures Parliamentary procedure (Holding tega y Gassetl Heredity (Sex cells and reproduction), meetings), P:195 Ortega y Gasset, José, O:506 H:166 with diagram Mega (prefix) Mediterranean, The isculpture by Plant (Sexual reproduction), P:556 Metric system (Metric prefixes), M:388 Mailloll Reproduction, Human (How sex is de-Megaera Mailiol, Aristide, M:69 termined), R:227 Furles, F:492 with picture Mediterranean cypress Reproduction (Through sexual repro-Megahertz [unit of measure] Cypress, Cl:512 duction), R:223 Radar (How radar works), R:58 Mediterranean forest Meir, Golda lisraeli politiciani, M:326 Radio (Broadcasting power and fre-Forest, F:34B with portrait quency), R:75 Mediterranean fruit fly, M:321 with Israel (The Yom Kippur Wari, 1:439 Short waves, S:393 Melrionnydd [Wales], M:327 with picpicture Megakaryocyte Fruit fly, F:476 Blood (Formation of new blood comture Mediterranean Lowlands Meissen porcelain ponents), B:396 France, F:406 Dresden china, D:307 Megale Idea Mediterranean Sea, M:321 with map Germany picture on, G:122 Greece (Independence), G:342 Ses also list of Related Articles Porcelain (German porcelain), P:689 Atlantic Ocean (Deep and bottom wa-Megalith with picture See Megalithic monuments ters), A:719 Meistersinger Megalith Builders of Western Europe, E:356; picture on E:371 See Mastersinger Europe, The book by Daniel France (The land), F:404; picture on Meistersinger, Die (opera by Wagner) Daniel, Glyn, D:30 See Mastersingers of Nuremberg, The Megalithic monuments (archaeology), Pirate (Pirates of the Mediterranean), Meltner, Lise (Austrian physicist), M:324 with picture P:520 M:327 Avebury, A:877 with picture Rome, Ancient (History), R:377 Fermi, Enrico, F:54 Medium (spiritualism) Brittany, B:581 Nuclear energy (The first artificially Ectoplasm, E:66 Daniel, Glyn, D:30 created fission reaction), N:329 Ireland, History of (Early peoples), Chost, G:150 Protactinium, P:812 Mythology (African mythology), M:762 1:366 Strassmann, Fritz, So:344 Spiritualism, So:232 Stonehenge, So:335 Mekeos (people), M:327 Medium-sulphur coal Megalopolis, M:324 **Mekong Delta** City (Future cities), Cl:37 Coal (Coal as a fuel), Ci:121 Mekong River, M:327 Medium-woolled sheep Meganeura (extinct insect) Vietnam, V:377 Prehistoric animal picture on, P:745 Sheep, 5:340 Mekong River (Indochina), M:327 Wool, W:310 Megaphone, M:325 Vietnam (Mekong Delta), V:377 Mediey idance by Tharpl Megara Melaka (capital cityl, M:329 with pic-Tharp, Twyla, T:187

See Hercules

Megasporangla

tures

Medulia [anatomy]

Malaysia, History of, M:99 with pic-

Melaka Istate, Malaysial, M:328 with

man Indonesia (The rise of Melaka), 1:195 Malays, M:81 Malaysia, History of, M:99 Straits Settlements, So:343 Melancholic Personality (Personality types), P:299 Melanchthon, Philipp [German religious leaderl, M:329 Luther, Martin (Reformation leader), L:419 Reformation (Martin Luther), R:181 Melanesia Pacific Islands, P:2; map on P:5 Sculpture (Pacific Islands sculpture), S:204 with pictures Melanesians [people] New Caledonia, N:107 with picture Pacific Islands, P:4 with picture Races, Human (The geographical-race theory), R:44 Melanin (pigment) Eve. E:435 Hair (Colour and texture), H:11 Mole. M:531 Skin (Epidermis), S:469 with diagrams; (Skin colour) S:470 Ultraviolet rays (Harmful effects), U:19 Melanocyte-stimulating hormone (MSH) Hormone (Other hormones), H:279 Melanoma Eye (Diseases of the uveal tract), E:442 Mole. M:531 Skin (Turnours), S:470 Melba, Dame Nellie (Australian soprano], M:330 with portrait Melbourne [aircraft carrier], M:336 Melbourne Australial, M:330 with pictures and maps Australia, History of, A:808 (Growth) A1009 Victoria (History), V:364 Melbourne, Viscount (British political leaderl, M:336 Melbourne-Cooper, Arthur British inventorl Animation (Early animation), A:421 Melbourne Cup, M:337 with pictures Horse racing (Types of horse races), H:307 Melchior (Biblical figure) Magi, M:44 Meldrum, Max (Australian artist), M:338 Australia, Art and architecture of (Impressionist painters), A:782 with picture Mello, Fernando Collor de Ipresident of Brazill Brazil (Brazil today), B:546 Mellon, Andrew William [American financier], M:338

Mellophone (brass instrument), M:338

Drama, D:285; (Romanticism) D:297 Counterpoint, CE:392 Music. M:730 Variation, V:315 Melody of Death, The book by Wallacel Wallace, Edgar, W:24 Melon (plant), M:338 with picture Melon (zoology) Dolphin (The bodies of dolphins), D:252 Melos [island, Greece] See Milos Melpomene [Greek mythology] Muses, M:717 Mythology (Greek divinities), M:757;

Meltdown Nuclear energy (Hazards and safeguards), N:326 Nuclear reactor (The safety system), N:334 Melting Heat picture on, H:115 Refrigeration (Effects of heat transfer),

picture on M:758

Melting point, M:339 Freezing point, F:439 Heat (Changes in state), H:120 with dia-**Melting pot**

Northern Territory (Location and size),

Ethnic group, E:341

Melton (England), M:339

Melville Island (Australia), M:340

Melville Island (Canada), M:341 Melville, Francis (Australian bushrangerl, M:339 Melville, Herman [American author], M:339 with portrait American literature (The romance), A:314 Marquesas Islands, M:216

Novel (The United States), N:313 Romance, R:347 Sperm whale, So:213 Member of Parliament Address, Forms of, A:41

Parliament, P:190 with pictures

Chiltern Hundreds, C:427

(MEP) Parliament, European, P:192 Member of the Wedding, The (book by McCullers] American literature (Fiction and other prose), A:320 Membrane, M:341

Member of the European Parliament

Cell (Inside a living cell), C:294 with diagrams Cicada, Ci:1 Egg (The shell), E:97; diagram on E:98 Fish (How fish adjust to change), F:175

Osmosis, 0:511 with diagrams Membranous labyrinth Ear (Parts of the ear), E:7 Memel [Lithuania]

Klaipóda, K:295 **Memel River** See Neman River Memling, Hans [Flemish painter], M30

Clothing picture on, Cl:102 Mémoires of the Royal Navy, 1679-1688 (book by Pepys) Pepys, Samuel, P:270 Memoirs, 1925-1950 [book by Kennan] Kennan, George Frost, K:215

Memoirs of a Dutiful Daughter book by Beauvoir! Beauvoir, Simone de, B:175 Memoirs of Many in One Inovel by Australia, Literature of (Modern nov

els), A:832 Memoirs of Many in One book by Whitel White, Patrick, W:232 Memorial, M:341 Sculpture (as monuments and memorials), S:188 with pictures, (Pacific Islands sculpture) 8:204

with picture Memories and Portraits (book by Ste Stevenson, Robert Louis (Stevenson) writings), 50:322 Memory (computer) Calculator, C:24 Computer, Ci:252; (How a computer

operates) M:256; (Storing Information) Cf:260; (Research and development) Ci:263 Printing (Photocomposition), P:781 Typewriter (Kinds of typewriters), T:485 Memory (psychology), M:341

Alzheimer's disease, A:296 Amnesia, A:337 Brain (in thinking and remembering) B:516 Learning disabilities (Types), L:139 Senility, S:254

Electronics (How electronic circuits

Memory circuit

process information), E190 Memphis lancient Egyptl, M:343 Cairo (History), C:20 Egypt, Ancient (The land), E:120 with Memphis [U.S.A.], M:343 Tennessee (Economy), T:140; (History)

Men Against the See [book by Nordhoff and Hall Nordhoff and Hall, N:239 Men and Power (book by Beaverbrook Beaverbrook, Lord, 8:178 Men and Women (poetry by Browning

Browning, Robert (Browning's poems) B:595 Men at Arms [book by Waugh] Waugh, Evelyn, W:103

Kenton, Stan, K:222 Melodrama [literature]

Meliophonium (musical instrument) Pieura, P:596 Membrane (chemistry)

Mucus, M:683

Blood (Red blood cells), B:393

Men in White [play by Kingsley] Kingsley, Sidney, K:283 Men of Good Will (works by Romains) Romains, Jules, R:335 Menagerie Circus (History), Cl:13 Zoo (History), Z:505 Menal Bridge

Bridge picture on, B:560 Menai Strait, M:344 Menander [Greek playwright], M:344 Drama (New comedy), D:287 with pic-

Greek literature (Drama), G:357 Menasco, Guido (Italian librettist) Opera (Cavalleria Rusticana), O:469

tura

Mencius (Chinese philosopher), M:344 Confucianism (Early Confucianism), Cl:278

Mencken, H. L. [American critic], M:344 with portrait American literature (Satirists), A:318

Essay (Personal essays), E:330 Mendel, Gregor Johann Austrian botanist), M:344 with portrait

Biology (The growth of modern biology), B:307 Sotany (Later developments), B:481

Cell (Before 1900), C:298 Evolution (The synthetic theory), E:412 Genetic engineering (History), G:81

Heredity, H:165; (Patterns of heredity) H:167; (Mendel's laws) H:172; diagrams on H:174

Plant (How people have changed plants), P:566 Science (Scientific advance of the

1800's), S:148; picture on S:146 Mendele the Bookseller

See Abramovich, Shalom Jacob Mendeleev, Dmitri I. (Russian chemist), M:345

Chemistry (Formation of the periodic table), C:370

Scandium, S:121

Science (Classifying data), S:141 Mendelevium (element), M:345 Mendel's laws

Heredity (Mendel's experiments), H:172

Mendelsohn, Eric [German architect], M:345 with picture

Mendelssohn, Felix (German composer, M:346 with portrait

Bach, Johann Sebastian (His works),

Classical music (The romantic era), Cl:61 Overture, O:526

Mendelssohn, Moses (jewish philosopher!, M:346 Mendicant

Friar, F:438

Monasticism (Non-Christian monasticism), M:544

"Mending Wall" [poem by Frost] American literature (Realist poetry),

Mendip (England), M:347

Mendip Hills (England), M:347 Somerset (Land regions), So:38

Menelaus [king of Spartal, M:347 Helen of Troy, H:136

Messenia, M:372

Sparta, So:201

Trojan War (The beginning of the war),

Troy (The legendary Troy), T:421 Menelik II lemperor of Ethiopia

Eritrea (History), E:320

Ethiopia, E:341

Menem, Carlos [Argentine president] Argentina today, A:564

President picture on, P:765

Menes (king of ancient Egypt) Egypt, Ancient (Beginnings), E:128 Memphis (Egypt), M:343

World, History of the (The Nile Valley), W:334

Menge, Johann (Australian geologist), M:347

Barossa Valley (History), B:117 Mengele, Josef [German doctor], M:347

Menhaden (fish), M:347 with picture Ménière's disease [disorder]

Deafness (Causes of hearing disorders), D:56 Ear (Diseases), E:12

Menin Road (painting by Nash) Nash, Paul, N:27

Meninas, Las (painting by Velázquez) Painting (Other baroque masters), P:62 with picture

Velázquez, Diego, V:324 Menindee (Australia), M:347

Meninges

Brain (How the brain is protected), B:512

Meningitis, M:347

Meningitis, M:347

Brain (Infectious diseases), B:517 Deafness (Causes of hearing dis-

orders), D:56 Encephalitis, E:234

Nervous system (Disorders of the nervous system), N:85

Meningoencephalitis [disorder] Encephalitis, E:234

Menninger, Karl Augustus (American psychlatristl, M:348

Menninger, William Claire [American psychiatristl, M:348

Mennonites (religious group), M-348

Amish, A:333

Anabaptists, A:347 Menominee (tribe)

Indian, American (Indians of the Northeast), I:152

Menon, Chandu [Indian writer] India, Literature of (The birth of nation-

alism), 1:128 Menopause, M:348

Oestrogen, 0:413 Osteoporosis, 0:514

Reproduction, Human (In females), R:225

Menorca See Minorca Menotti, Gian Carlo (American composerl, M:349

Opera (American opera), O:466

Men's magazine

Magazine, M:40 with picture

Mensheviks [political group], M:349 Bolsheviks, B:432

Lenin, V. I. (Beginnings of revolution), L:170

Russia (Nicholas II), R:489

Menstruation, M:349 with diagram Birth control (Methods of birth control), B:367

Menopause, M:348 Oestrous cycle, 0:414

Premenstrual syndrome, P:761

Reproduction, Human (In females), R:225

Sex (Puberty), S:290 Toxic shock syndrome, T:320

Mental ability

Testing (Kinds of tests), T:163

Mental age Intelligence quotient (Testing Intelli-

gence), I:277 Mental and Social Measurement

(book by Thorndike) Thorndike, Edward Lee, T:226

Mental disability Occupational therapy (Helping the

mentally disabled), O:385 Mental disease

Insanity, I:239

Mental disorder Psychiatry (Psychiatric disorders),

P:825

Mental health

Health (Elements of mental health), H:95

Mental illness, M:350

See also list of Related Articles Brain (Brain chemistry and mental illness), B:516

Handicapped, H:44

Huntington's disease, H:386 Special education, So:206 Mental retardation, M:356

Autism (Symptoms), A:869 Gaucher's disease, G:61

Handicapped, H:44 Lesch-Nyhan syndrome, L:184

Phenylketonuria, P:361 Special education (Mentally handi-

capped children), So:206 Special Olympics, So:207

Mental telepathy

See Telepathy Mental testing

Thorndike, Edward Lee, T:226

Mentalist magic

Magician, M:48 Menthol, M:357

Mentor [Greek mythology], M:357 Menuhin, Yehudi (American violinist),

M:357 Menzies plaid

Tartan picture on, T:48

Menzles, Sir Robert Gordon (Australlan political leader], M:358 with

Cinnabar, Ci:4

Thermometer (Liquid-in-the-glass ther-

mometers), T:215 visions), B:675 portrait Mercury (legendary figure) Conglomerate, Ci:279 Petrov Affair, P:354 Sculpture (Movement), S:191; (Euro-Meridian, M:364 Mephistopheles, M:358 Geography (What geographers study) pean sculpture) S:212 with picture Mer, La [music by Debussy] Mercury (planet), M:361 G:87 Debussy, Claude, D:63 Astronomy (The nighttime sky), A:686; Greenwich Meridian, G:364 Merantau (custom) (The solar system) A:689 Hour, H:321 Sumatra (People), So:405 International Date Line, I:289 with map Mercantilism, M:358 Evening star, E:404 Capitalism (History of capitalism), Magnetism (The magnetism of other Longitude, L:381 with diagrams astronomical bodies), M:57 Map (Geographic grids), M:187 Colonial life in America (Trade). Cl:185 Planet, P:533 Time (Local and standard time), T:257 Space exploration, So:128 Mérimée, Prosper [French author]. Colonialism (Economic policies), Ci:187 Transit [astronomy], T:341 M:365 See also Hermes Opera (Carmen), 0:468 Economics (Early beginnings), E:64 Physiocrats, P:480 Mercury (Roman mythology), M:363 Mering, Joseph von [German physi-Tariff (The first tariffs), T:45 with picture cianl Mythology (table), M:758 Insulin (History), 1:271 Mercator projection Mercury-Atlas Merino sheep Map (Cylindrical projections), M:188 Sheep (Fine-woolled sheep), \$:339 Mercator, Gerardus (Flemish geogra-Space exploration (Launch vehicles), So:132 Waterhouse, Henry, W:99 pher], M:359 with pictures Wool (Wool growing in Australia and Atlas, A:722 Mercury barometer New Zealand), W:312 Map (Advances in European cartogra-Barometer, B:115 Merionethshire, M:365 Torricelli, Evangelista, T:305 phyl, M:191 See also Clwyd; Gwynedd; Meinon-Mercedes [car] Mercury cell Daimler, Gottlieb, D:6 Battery, B:155 nydd Maybach, Wilhelm, M:281 **Mercury Communications** Meristematic tissue Tissue (Plant tissues), T:263 Telephone (United Kingdom), T:109 Mercenary, M:359 Merleau-Ponty, Maurice [French ps/ Mercerization Mercury glass Broadcloth, B:583 Glass (Types of art glass), G:198 chologist Phenomenology, P:361 Cotton (Finishing), Cl:387 Mercury programme Sewing (Sewing the item), S:287 Merlin Astronaut, A:681 Textile (Finishing the fabric), T:173 Arthur, King, A:609 Space exploration (Vostok and Mer-Thread, T:229 Round Table, R:411 cury: The first human beings in Merchandising Merlin (bird) space), So:145; picture on So:146 Faicon (Smaller faicons), F:14 with pic Clothing, Ci:108 Mercury-Redstone See also Marketing Space exploration (Launch vehicles), ture Mermaid [mythical creature], M:365 Retailing, R:244 So:132 with picture; (Vostok and Mermaid Tavern [London], M:365 Merchant Mercury: The first human beings Jonson, Ben, J:140 City (Ancient cities), Ci:22; (Economy) in space) So:145 Mermaid's purse [fish] Cl:29 Mercury vapour lamp Dogfish, D:241 Trade (Early trade), T:326 Electric light (High-pressure gaseous-Trade route (Early trade routes), T:327 Rav. R:147 discharge lamps), E:151 Merman [Greek mythology] Merchant gulld Mercury [element] Gutld, G:411 Environmental pollution (Business and Mermaid, M:365 Poseidon, P:709 Merchant navy, M:359 industry), E:306 Merovinglan [French history], M:365 Ship, S:361; (Merchant fleets of the Mercy killing France (Victory of the Franks), F:411 world) 5:384 Death (The right to die), D:59 Merovingian period [French history] Merchant of Venice, The play by Euthanasia, E:401 Franks, F:426 Shakespeare) Meredith, George [English author], Merrick, John (British public figure) Hoffman, Dustin, H:240 M:364 Neurofibromatosis, N:102 Shakespeare, William, S:313; picture Merengue (dance) Merrill, James American poet on \$:326 Dominican Republic (Recreation), American literature (Poetry), A:318 Merchant of Yonkers, The [work by Merrimack (ship) Wilder Merensky, Hans [South African geolo-See Monitor and Merrimack Wilder, Thornton Niven, W:250 gistl, M:364 Merry-go-round, M:365 Merganser, M:364 with picture Merry Wives of Windsor, The play by Mercia [English history], M:360 Egbert, E:97 Duck (Food), D:338 Shakespeare) Heptarchy, H:158 Mergenthaler, Ottmar (German inven-Shakespeare, William, S:316 with plan Kings and queens of Britain and Iretor], M:364 land, K:260 Communication (In the late 1800's), Mercourl, Melina [Greek actress], C±232 ture Merry's Museum [magazine] M:360 Invention (The late 1800's), 1:318 Alcott, Louisa May, A:240 Mercurochrome, M:360 Linotype (History), L:297 Borders Region (Land features), B.457 Merse of Berwick Printing (New presses and typecasting Mercurous chloride Mersenne, Marin [French mathemath Mercury (Compounds), M:361 machines), P:787 Mercury (element), M:360 Type (History), T:484 Sound (The wave theory), So:53 Amalgam, A:297 Merger [economics], M:364

Aviation (Aircraft manufacture), A:879

Business (Monopoly and merger pro-

Mersey River, M:366

Manchester, Greater (Rivers), M:146 Merseyside,, M:366 Merseyside (England), M:366 with map See also list of Related Articles Arms picture on, A:586 Merthyr Tydfil [Wales], M:369 Glamorgan picture on, G:178 Merton (London), M:369 Merton, Robert King [American sociologisti, M:369 Merton, Thomas (American monk), M:369 Merulius lacrymans Fungi (Common kinds of fungi), F:486 Mery (oasis, Asia), M:369 Merwin, W. S. [American poet] American literature (Poetry), A:319 Mesa, M:369 with picture Mesa del Norte Mexico, M:410 Mesa Verde National Park, M:370 Merabi Range [U.S.A.], M:370 Mescal [drink] Mexico (Food and drink), M:405 Mescaline [drug], M:370 Brain (How drugs affect brain chemistry), B:517 Drug abuse (Commonly abused drugs), D:322 See also Hallucinogen Meseta Europe (The Central Uplands), E:371 Portugal (Land regions), P:702 Spain, So:176 with picture Mech Battery (Lead-acid storage batteries), 1:155 Mesha (king of the Moabites) Jordan (Early days), J:144 Moabite stone, M:522 Meshed [Iran], M:370 Mesmer, Franz (or Friedrich Anton)

[Austrian doctor], M:370 Hypnotism (Mesmerism), H:415 Mesmerlsm

Hypnotism (History), H:415 Mesmer, Franz, M:370

Mesocarp [botany]

Fruit (How botanists classify fruits), F:474 Mesoderm (biology)

Embryo (Human development), E:227 Mesolithic Period

See Stone Age, M:370 Prehistoric people (The first human beings), P:751 Stone Age, So:334

Meson [physics], M:370 Hadron, H:4

Physics (Uncovering the secrets of the atom), P:478 Upsilon particle, U:271

Yukawa, Hideki, Y:480

Mesopotamia, M:371 with map Agriculture (The Middle East), A:171 with picture

Babylon (The Old Babylonian Empire),

Biology picture on, B:306

Cotton (History), Cl:388 Glass (Early times), G:195

Invention (The first civilizations), 1:314 Iraq, I:341; (History) I:346

Library (Libraries of clay), L:229 with picture

Sculpture (Prehistoric sculpture), S:194; (Middle Eastern) S:194 with picture

Slavery (Ancient times), 5:480 Transportation (Prehistoric times), T:349; (The first great civilizations)

T:350

Water (Water and civilization), W:82 Mesopotamian architecture

Architecture, A:517 Mesosphere, M:371

Air (Structure of the atmosphere), A:186

Ionosphere, I:328 Mesothelioma

Asbestos (Hazards of asbestos), A:618

Mesozoic Era

Australia (Geology), A:767 Dinosaur, D:175; (The world of the dinosaurs) D:176 Earth, E:27; (table) E:30

Prehistoric animal (The world of prehistoric animals), P:743; (Mammals) P:747

Reptile (The evolution of reptiles), R:233

Mesquite (tree), M:371 with picture Messenger

Mercury, M:363 with picture Post office (Ancient times), P:714

Messenger, Dally iAustralian rugby footballer), M:372 Messenger RNA (genetics)

Cell (Producing proteins), C:299 with diagram

Heredity (How proteins are made), H:171

Nucleic acld, N:341

Messenia [Greece], M:372 with maps Messerschmitt [aeroplane]

Aeroplane (During World War II), A:83 with pictures

Messerschmitt, Willy (German inven-

Invention (The 1900's), I:319

Messiaen, Olivier [French composer], M:372

Messiah, The lpoem by Klopstock German literature (The Storm and Stress movement), G:108

Messiah (religion), M:372 Christianity (Beliefs), C:484

David, D:44 lesus Christ, J:96

lews (Roman rule), J:114 ludaism, J:154

Kabbalah, K:178

Messiah [music by Handel] Handel, George Frideric, H:41 Oratorio, 0:484

Messianic Kingdom [religion] Heaven, H:128 Messianic secret

Gospels (The Gospel of Mark), G:262 Messier, Charles [French astronomer], M:373

Messina [Sicily], M:373 Messina, Strait of, M:373 Messmate stringy bark (tree) Eucalypts picture on, E:350

Mestizo, M:373

Angola (People), A:372 Argentina (Ancestry), A:553 with picture Belize (People), B:225

Bolivia (Population and ancestry), B:426; (Colonial rule) B:429

Chile (Ancestry), C:416 Colombia (Ancestry), Cl:169 Costa Rica (Population and ancestry), CI:375

Fcuador (People), E:68 El Salvador (Population and ancestry),

Guinea-Bissau (People), G:416

Honduras (People), H:259 Latin America (People of mixed ances-(ry), L:78

Mexico, M:397; (Ancestry) M:401; (Spanish rule) M:418 Mexico City (Ethnic groups), M:428

Nicaragua (People), N:192 Paraguay (Population and ancestry),

P:162 Peru, P:310; (Ancestry) P:308 Uruguay (Population and ancestry),

11:280

Mestizo people

Indian, American (in Latin America), **E:164**

Meštrović, Ivan, M:373 Croatia (People), Ci:444 Yugoslavia (Art), Y:474

Metabolic disease Cell. C:302

Metabolic hormone Hormone, H:278

Metabolism, M:373

See also list of Related Articles Biochemistry (Biochemical research), 11:298

Botany (Physiology), B:479 Cell (Metabolic diseases), C:302 Fast, F:32

Goitre, G:229 Heat (Chemical reactions), H:116

Hormone (Metabolic hormones), 14:278

Krebs, SirHans Adolf, K:333 Krebs cycle, K:333 Life, L:246 Potassium, P:718

Sloth, S:488 Metacarpai

Frog diagram on, F:465 Hand (Parts of the hand), H:39 Wrist diagram on, W:421

Metacomet

Philip, King, P:366 Metal, M:374

See also list of Related Articles Element, Chemical, E:197 with tables

Meteorologist B:687 with pictures Metallurgy, M:375 Antarctica, A:444 Plastics (To replace metals), P:577 Cocoon, Ci:144 Prehistoric people (The end of prehis-Computer picture on, Ci:256 Eel (Life cycle), E:95 Radiosonde, R:92 with picture toric times), P:760 Frog (Tadpoles), F:467 with pictures Rain (Measuring rainfall), R:115 Rare earth, R:139 Insect. l:255 Weather (Weather forecasting), W:14 Metai dam Moth (The life cycle of moths), M:640 with pictures with pictures Dam (Kinds of dams), D:12 Meteorology, M:381 Salamander (The life of a salamander), Metal detector (instrument), M:375 Air (The study of air), A:186 S-48 with picture Balloon (Scientific uses), B:62 Metal fatigue, M:375 Toad (The life of a toad), T:268 Geophysics, G:99 Metal forming Metaphor, M:378 Lamarck, Chevalier de, L:33 Shakespeare, William (Rhetoric), S:323 Machine tool, M:17 Radiosonde, R:92 Slang (Figures of speech), S:478 Metal halide lamp Metaphysical poets, M:378 Rain gauge, R:119 Electric light (High-pressure gaseous-Science, S:140 discharge lamps), E:151 Poetry (Renaissance poetry), P:615 World Meteorological Organization Taylor, Edward, T:72 Metal point (drawing technique) Metaphysics, M:379 (WMO), W:361 Leonardo da Vinci (Adoration of the Meter, Electric Aristotle, A:568 Kings), picture on L:178 Philosophy (Aristotle), P:423 See Electric meter Metal point (drawing technique) Methadone [drug], M:382 Leonardo da Vinci (Adoration of the Metastasis Drug abuse (Treatment of drug abuse), Cancer (How cancer develops), C:118 Kings) picture on, L:178 D:323 See Cancer (How cancer develops), Metallic oxide Opium (Opium addiction), 0:477 MIRO Enamel (Composition and application), Methaemoglobin Skin (Turnours), S:470 E:234 Haemoglobin, H:5 Metallography, M:375 Metatarsal arch Methamphetamine [drug], M:382 See Foot [The arches], M:380 Metallurgical engineering Methane, M:382 Engineering (Materials engineering), Metatarsal Alcohol (Methanol), A:236 E:257 with picture Foot (The arches), M:316 Coal (Accumulations of gases), Cl:131 Metate malze-grinding platform Metallurgy, M:375 Sculpture (Mature Indian sculpture), Damp, D:18 See also list of Related Articles Gas (The composition of natural gas), S:205 with picture Engineering, E:257 Geology (The Renaissance), G:92 Metaurus, Battle of Hydrocarbon (Aliphatic hydrocarbons) Metallography, M:375 Army (Famous land battles), A:593 Metalmark [entomology] Metcalf, John British road builderl, H:400 Irradiation, I:405 Butterfly, B:682 with pictures Will-o'-the-wisp, W:254 Metalware Metchnikoff, Élle (Russian biologist), Methanol, M:383 Islamic art, I:421 M:380 Alcohol, A:236 Metalworking Blood (History of blood research), Hydrogen (Hydrogen compounds), Antique, A:464 H:405 Brass (Making brass), B:524 with pic-Nobel Prizes (Physiology or medicine), Petrochemicals, P:328 Methanol Celtic art. C:308 Metempsychosis Environmental pollution (Scientific of Forging, F:361 with pictures Nerval, Gérard de, N:80 forts), E:306 Indian, American (Metalwork), I:147 Meteor (astronomy), M:380 with pic-"Method of Reaching Extreme Alti Machine tool, M:15 with pictures tudes, A" (paper by Goddard) Sculpture (China), S:200; (Korea) S:201 Astronomy (The nighttime sky), A:686 Space exploration (Early dreams of Tool, T:297 Fireball, F:138 space flight), So:140 Metamorphic rock, M:377 Solar system (Meteoroids), So:27 Methodist Episcopal Church Earth (The earth's crust), E:19 with pic-Meteorite [astronomy] Asbury, Francis, A:619 Methodists ireligious groupl, M:383 Asteroid, A:678 Feldspar, F:48 Iron and steel (The Iron Age), 1:400 See also list of Related Articles Gem (Sources of gems), G:71 Magnetism, M:54 Asbury, Francis, A:619 Gneiss, G:217 Meteor. M:381 Protestantism (The Methodist move Marble, M:197 with pictures Tektite, T:99 ment (the 1700's)), P:817 Mountain (Volcanic mountains), M:666 Meteoroid Wesley, Charles, W:154 Rock, R:309 with pictures Astronomy (The solar system), A:689 Wesley, John, W:154 Methuselah [Old Testament], M:384 Soapstone, So:1 Meteor, M:381 Metamorphism [rock], M:377 Moon (The moon's surface), M:585 Methyl alcohol Metamorphoses [poem by Ovid] Solar system (Parts of the solar sys-See Methanol Arelthusa, A:550 tem), So:26 Methyl salicylate Latin literature (The Augustan Age), Space exploration (The beginning of Salicylic acid, S:50 ..99 space), So:130 Methylbenzene Narcissus, N:24 Meteorologica book by Aristotlel See Toluene Ovid. 0:526 Air (The study of air), A:188 Methylphenidate [drug] Pygmalion, P:870 Meteorological map Hyperactivity, H:411 Metamorphosis, M:377 Map (Advances in European cartogra-Canada, History of (New provinces),

phy), M:191

Meteorological rocket

Rocket (Atmospheric research), R:318

See also list of Related Articles

Beetle (The life cycle of beetles), B:197

Butterfly (The life cycle of butterflies),

Métis

C:101; (The North West Rebellion)

Microbiology, M:437

Miami (tribe) Mexican onyx Indian, American (Indians of the North-C:101 North West Rebellion, N:265 Onyx, 0:453 east), 1:152 Mexican turnip Red River Rebellion, R:173 Miami [U.S.A.], M:431 ficama, J:118 Metonymy, M:384 Miao wildlife sanctuary Mexican War, M:394 with picture and Metoproloi [drug] Arunachal Pradesh (Land), A:617 Beta-blocker, B:262 Mica [mineral], M:432 See also list of Related Articles Metre [poetry], M:384 Mineral picture on, M:483 Westward movement (The Oregon Poetry (Rhythm and metre), P:612 Rock (Metamorphic rock), R:309 Trail), W:198 Metre lunit of measurel, M:384 Micah, Book of, M:432 Mexicana Airlines [airline] Metric system, M:385; (Length and dis-Michael (czar of Russia) Airline (table), A:208 tance measurements) M:386; (Sur-Romanov, R:359 Mexico, M:397 with pictures and maps face measurements) M:386 with Michael (king of Romania) See also list of Related Articles pictures Carol II, C:206 Aviation (Aircraft nationality marks), Metric hundredweight Romania (World War II), R:357; (Com-A:881 Hundredweight, H:372 munist control) R:358 Aztec, A:898 Metric system, M:385 with pictures Michael Kohlhaas (book by Kleist) Conservation (Latin America), Cl:302 See also list of Related Articles Kleist, Heinrich von, K:295 Cuauhtémoc, Ci:471 Michael of Kent, Prince Pound. P:728 Flag picture on, F:203 Power [physics], P:731 Royal Family of the United Kingdom Indian, American, I:160 Weights and measures, W:136; (tables) (The outer circle), R:425 Los Angeles (Mexican rule), L:393 W:137 Michael, Barry (Australian boxer) Maya (The Classic Period), M:280 Boxing (World titles), B:498 Metric ton Montezuma, M:577 Metric system (Weight and mass mea-Michael, Saint [archangel], M:432 Oaxaca, 0:378 surements), M:386; picture on Michaelmas, M:432 Obregón, Álvaro, O:380 Michaelmas (religion), M:432 Painting (Mexican painting), P:83 with Michaeimas Day Ton. T:293 picture Quarter days, Q:8 Metrolink Texas (History), T:168 Michelangelo (Italian artist), M:433 with Manchester (Transport), M:145 with Tijuana, T:246 pictures Mexico (trade), M:416 Architecture (Later Renaissance archi-Metronome (instrument), M:390 with Mexico City, M:424 with pictures and tecture), A:527 Music (Indicating time values), M:732 Madonna and Child, M:33 See also list of Related Articles Painting, P:59 with picture; (Fresco with pictures Mexico, M:397 painting) P:40 with picture Metropolitan area, M:390 with map Meyer, Josef Renaissance (The fine arts), R:217 City, Ch32 Encyclopedia (Today's encyclopedias), Saint Peter's Church, S:42 Metropolitan Sculpture, S:212 with picture Cathedral (Organization of a Cathe-Meyer, Julius Lothar [German chemist], Michell, Kelth [Australian-born actor], dral), C:260 M:431 Metropolitan [title], M:390 M:436 Chemistry (Formation of the periodic Michelson-Morley experiment Metropolitan Museum of Art, M:393 table), C:370 Relativity (Special theory of relativity), with picture Meyerbeer, Glacomo (German com-Metropolitan Police poser], M:431 Michelson, Albert Abraham [Ameri-Police (United Kingdom), P:642 Opera (Grand opera), 0:464 can scientist), M:436 Scotland Yard, S:174 Meyerhoff, Otto (German physiologist) Metternich (Austrian political leader), Ether [physics], E:335 Hill, Archibald V., H:203 Nobel Prize (Physics; 1907), N:226 M:394 Nobel Prizes (Physiology or medicine), Optics (History), 0:480 Aix-la-Chapelle, Congress of, A:220 N:230 Michener, James Albert American au-Austria (Metternich and revolution), Mezzo-soprano thorl, M:436 Autor Opera (The singers), 0:458 German literature (German literature Michigan (U.S.A.), M:436 Singing (Voice classification), S:454 Michigan, Lake from 1830-1890), G:109 Mezzo-rilievo Mettrie, Julien de la (French philoso-See Lake Michigan Relief (Half relief), R:195 Michiko (empress of Japan) pher) Royal families (Japan), R:420; picture Mezzotint Materialism, M:254 Pennell, Joseph, P:262 Metz [France], M:394 on R:418 Mfecane [African history], M:431 Meuse River [France], M:394 **Mickey Mouse** South Africa, History of (Turmoil in the Animation (Walt Disney), A:422 Netherlands (The sand plain), N:92 interior), So:79 Disney, Walt with picture, D:200 with map Mg [symbol] Mexical [Mexico], M:394 Microbes Magnesium, M:50; (Properties) M:51 Mexico (The Pacific Northwest), M:409 Air (Particles in the air), A:184 Medicine (The beginnings of modern Mexican bean beetle MIS Security Service, S:233 See Bean beetle research), M:315 Mexican burrowing toad MIG Microbiology, M:437 Security Service, S:233 Toad (Kinds of toads), T:268 Microbial agents Miacis [extinct animal] Mexican fruit fly Cotton (Care during growth), Cl:385 Cat (History), C:254 Fruit fly, F:476 Microbial insecticide Dog (History), D:239 Mexican hairless (dogl, M:394 Insecticide, I:264 Prehistoric animal (The development

of placentals), P:747

Mexican Hayride Imusic by Porter

Parter, Cole, P:696

Fertilizer (The importance of fertilizer),

Nutrition (Kinds of nutrients), N:363

Antibiotic, A:456 with diagram

Microorganism

Bacteriology, B:22 Disease, D:189 periments), M:202 Radar (Advances during World War II. Biology (What biologists study), B:305 Food preservation (How food spoils), Microchip R:62 Telecommunication, T:100 See Microprocessor Medicine (The beginnings of modern Microcline [mineral] research), M:315 Telephone (Long-distance lines), Feldspar, F:49 T:107; (The telephone industry) Microbiology, M:437 Microcomputer Microphone, M:440 T:108 Radio (From sound waves to electric See also Computer, Personal Television, T:132 Microwave oven, M:443 with picture Microcrystalline wax, M:438 waves) P.74 Wax (Mineral wax), W:106 Sound (Using sound), So:53 Cooker (History), Ch333 Microeconomics Telephone tapping, T:111 Microwave ovens Economics, E:59; table on E:65 Telephone (The transmitter), T:106 Electronics, E:184 Microelectronics with diagram Microwave radio relaying Electronics, E:184 Television, T:124 Frequency modulation, F:456 Microencapsulation, M:438 **Mid-Atlantic Ridge** Microphotography Microfarad Microfilm, M:438 Atlantic Ocean (The ocean bed), A:71 Farad, F:26 Plate tectonics (Divergent plate bound-Microprocessor, M:440 Microfiche Computer, Personal, Ci:268 aries). P:584 Book (Modern books), B:458 Computer (Kinds of computers). Mid Atlantic Rift Valley Library (The growth of information), Ci:257; (Processing data) Ci:259; Atlantic Ocean (The ocean bed), A716 L:213 (The miniaturization of computer Mid Glamorgan Microfilm, M:438 components) Cl:266 See Glamorgan Microfilm, M:438 Electricity (Electrons and electricity), Mid-Indian Ridge E:172 with pictures Book (Modern books), B:458 Indian Ocean (Ocean floor), 1:171 Information retrieval (Kinds of retrieval Electronic game, E:178 Midag Alley (book by Mahfouz) systems), E233 Ignition (The direct fire ignition sys-Mahfouz, Naguib, M:68 Microfilm (lacquer) tem), I:29 with diagram Midas (Greek mythology), M:444 Aeropiane, Model (Indoor models), Invention (Recent developments). Midas (satellite) A:106 Satellite, Artificial (Important satellites) 1:320 Microgametophyte Machine tool (Numerical control of SHIMS Seed (Seed development in anglosmachine tools), M:18 Midbrain perms), \$:236 Brain (The brain stem), B:512 Scale, Weighing (Electronic scales). Micrographia (book by Hooke) S:119 Middle age, M:444 Middle Age of Mrs. Eliot, The work Biology (Early discoveries with the mi-Typewriter (Kinds of typewriters), croscope), B:306 T:485 by Wilson] Microgravity Microprocessor Wilson, Sir Angus, W:261 Space exploration, So:135; (Space ex-Electronics (Terms used in electron-Middle Ages, M:445 ploration terms) So:130; picture See also list of Related Articles on So:136 Electronics (Types of electrical cir-Army, A:592 Space exploration (The space race be-Asia, A:658 with map cuits), E:186 gins), So:141 Microrace Athens, A:709 Microlight aeroplane Communication, Ci:230 Races, Human (The geographical-race Aeroplane (Light planes), A:88 theory), R:44 Doll, D:245 Drug (Drugs in the Middle Ages), Micrometeorold Microscope, M:441 with pictures Space exploration (Living in space). Biology (Early discoveries with the mi-D;318 So:135 croscope), B:306 Education, E:92 Food (Food through the ages), F:301 Micrometer (mechanical device), M:439 Cell (Looking at a cell), C:293 Calliper, C:42 Electron microscope, E:178 with diawith picture Tool (Metalworking tools), T:297 Freedom, F:435 Micrometre [unit of measure], M:439 Government, G:276 Eye picture on, E:442 Micromount Instrument, Scientific, E267 Hairdressing, H:12 History (Medieval times), H:225 Rock (Displaying rocks), R:310 Ion microscope, 1:326 Micron Leeuwenhoek, Anton van, L:152 Invention, 1:315 See Micrometre London, L:373 Medicine (The beginnings of modern Micronesia Maglc, M:46 research), M:315 Mariana Islands, M:204 Ultramicroscope, U:17 Name, N:11 Pacific Islands, P:4 World, History of the picture on, Navy, N:59 Micronesia, Federated States of, W:352 Physics, P:474 Mc439 Microsporangia Poetry, P:615 Micronesians [people] Plant (Sexual reproduction), P.556 Pope, P:676 Pacific Islands, PA with picture Roman Catholic Church (The Middle Microsurgery Races, Human (The geographical-race Surgery (Technique), So:437 theory), R:44 Ages), R:339 Microtome, M:443 Sculpture (As part of architecture), Micronutrients S:189; (Medieval and Renaissance Microtomy, M:443

Microwave, M:443 Burglar alarm, B:650

Cooking (Other methods), Ci:335

Light (Electromagnetic waves), 1:259

Marconi, Guglielmo (Short-wave ex-

sculptors) S:193; (Medieval sculp

ture) S:208 with pictures

Shelter, S:351

Slavery, S:480

Textile industry, T:175 Town planning, T:318 Transportation, T:352 United Kingdom, Education systems of the, U:102 World, History of the, W:342 Middle America, M:452 Middle Atlantic States Region [U.S.] with map United States, U:189 Middle class (sociology), M:452 City (Economy), Ci:29 French Revolution (Background), F:451 Industrial Revolution (The middle and upper classes), I:216 Social class, So:2 World, History of the (The Industrial Revolution), W:354 Middle ear Ear (Parts of the ear), E:7 with picture Eustachian tube, E:401 with diagram Mastoid, M:251 Middle East, M:453 See also list of Related Articles Agriculture, A:171 Arabs (The land of the Arabs), A:489 with map Architecture (As part of architecture), 5:189 Conservation (Asia), Ch302 Decorations, medals, and orders, D:75 Medicine (History), M:313 Petroleum (Where petroleum is found), P:337; (The petroleum Industry) P:350; (Postwar developments) P:352 Prehistoric people (The single origin theory), P:757; (Cultural development of modern human beings) Royal families (Asia), R:420 Sculpture, S:194 with pictures; (The first sculptors) S:192 Village, V:393 World, History of the, W:336 Middle English English language, E:282 Middle Ground, The (work by Drabble) Drabble, Margaret, D:278 Middle name Name, N:10 **Middle Rockles** Rocky Mountains (Chief ranges of the Rockies), R:327 Middle Stone Age See Stone Age Middle Temple Inns of Court, 1:237 United Kingdom, Legal systems of the (The legal profession), U:156 Middle Way

Bodhisattva, B:417

Religion (Buddhism), R:202

Thurber, James, T:233

Buddhism, B:616

Dharma, D:151

Middlemen Trade (The use of markets), T:325 Middlesbrough [England], M:458 Middlesex (England), M:458 Middleton, Thomas (English playwright), M:458 Massinger, Philip, M:247 Middleveld (region) Northern Province (Land), N:277 South Africa (The Plateau), So:62 Midge [insect], M:458 Midaet Dwarf, D:360 with picture Stratton, Charles Sherwood, So:348 with picture Midlands [province, Zimbabwe] Zimbabwe (Local government), Z:494 Midlands, The [England], M:458 England (Surface features), E:270 Midlothian (Scotland), M:458 Midnight Cowboy [film] Film industry (Best picture), F:96 Hoffman, Dustin, H:240 Midnight Ride of Paul Revere, The [painting by Wood] Revere, Paul, R:246 Wood, Grant, W:300 Midnight sun, M:458 with diagrams Arctic circle, A:544 Finland, F:113; (Climate) F:119 Norway, N:291 with picture; (Climate) N:297 Sweden, So:460 Midocean ridge Ocean (How the sea floor was formed), O:398; map on O:396 Midstream: My Later Life book by Kellerl Keller, Helen Adams (She helps others), K:212 Midsummer Day Quarter days, Q:8 Midsummer Marriage, The (music by Tippetti Tippett, Sir Michael, T:262 Midsummer Night's Dream, A lplay by Shakespearel Fairles (Fairles in literature), F:11 Moon (Literature and music), M:594 Puck, P:845 with picture Shakespeare, William, S:311 Midsummer Night's Droam, A (work by Britteni Britten, Benjamin, B:582 Midsummer Night's Madness (book by O'Faolain) O'Faolain, Sean, 0:414 Midway Island, M:458 Midway, Battle of Midway Island, M:458 Navy (World War 11), N:61 World War II, W:397; (The tide turns) Midway [ship] Middle-Aged Man on the Flying Tra-Aircraft carrier (The modern carrier peze, The (work by Thurber) fleet), A:205 Midwestern Corn (Maize) Belt Middlemarch: A Study of Provincial

Indiana, I:178

Life (book by Eliot)

Eliot, George, E:210

Midwich Cuckoos, The book by Wyndham! Wyndham, John, W:426 Midwife, M:459 Midwife toad, M:459 with picture Toad (Kinds of toads), T:268 Mies van der Rohe, Ludwig [German architectl, M:459 Architecture, A:537 with picture (Early modern architecture in Europe) A:532 Behrens, Peter, B:203 Furniture (The Bauhaus), F:506 with Miescher, Friedrich (Swiss blochemist) Cell (The 1900's), C:304 Mifepristone [drug] Abortion (Abortion methods), A:15 Mignonette (plant), M:460 with picture Migraine Headache, H:93 Migration See also list of Related Articles Africa, A:148 Algeria (History), A:265 Animal, A:410 with picture Aztec, A:901 Famine (Effects of famine), F:25 Immigration (History), 1:35 Population, P:684 Races, Human (Migration and gene flowl, R:49 with picture Village, V:393 West Indies (Way of life), W:166 Westward movement (Patterns of migration), W:199 Migration (biology), M:460 Bat. B:147 Bird (The distribution of birds), B:319; (Bird migration) B:337 Butterfly, B:690 Fish, F:158 Hawk, H:85 Insect, #258 Magnetism, M:54 Mammal, M:135 Moth, M:641 Whale, W:210 Migratory locust Grasshopper (Short-horned grasshopper), G:306 **Migratory trout** Fishing (Game fishing), F:185 Mihailović, Draža (Yugoslav patrioti Tito, Josip Broz (Early life), T:267 Yugoslavia (World War II), Y:474 Mikado (title), M:461 Mikado, The lopera by Gilbert and Sul-Hvanl Gilbert and Sullivan, G:158 Miki, Takeo Iprime minister of japani, M:461 Mikrokosmos (music by Bartók) Bartók, Béla, B:121 Milan [Italy], M:461 Renaissance (The Italian Renaissance), R:215 Milan Cathedral [Italy], M:463 with pic-

ture

Lebanon (Recent developments), L:148

See also list of Related Articles

Milk, M:465 with pictures

Baby (Baby care), B:8

Miller, Glenn | American dance band Breast, B:550 with diagram Mllan Decree, M:463 Coagulant, Ci:118 leaderl, M:473 Milbanke, Anne Isabella (wife of Miller, Henry (American author), Mars Condensed milk, Ci:274 Byronl Miller, Mina [wife of] Byron, Lord (Byron's life), B:695 Fallout (The fallout hazard), F:18 Edison, Thomas Alva (Family and Mildew [fungus], M:463 Food (Dairy products), F:295 Mile lunit of measurel, Mc464 Lactation, L:11 friends), E:82 Miller, Robin (Australian nurse), Mars Mammal (Care of the young), M:133 Mileometer Miller, William Speedometer, So:209 with picture Miles, Bernard Adventists, A:58 Mammary glands, M:138 Nutrition (Kinds of nutrients), N:363: **Millerites** See Miles, Lord (Nutrition guidelines) N:364; Adventists, A:58 Miles, John Campbell (Australian pros-Miller's thumb [fish] (Basic food groups) N:365 with pector], M:464 Sculpin, S:185 Miles, Lord (British actor), M:464 picture Milles, Carl Wilhelm Emil [Swedish-Miles, Nelson A. [American general] Paim (The fruits), P:106 American sculptorl, M:473 Indian wars, 1:173; (The Sioux wars) Milk glass Sweden (Fine arts), So:467 1:176 Glass (Types of art glass), G:198 Milestones of Aviation (book by Johns) Milk of magnesia Millet (plant), M:474 with picture Johns, W. E., 1:132 Magnesia, M:50 Grain (Kinds), G:285 Miletus [ancient Greece], M:464 Milk snake, M:470 with picture Mali picture on, M:114 Senegal (People), S:251 Town planning picture on, T:319 Milk sugar Millet, Jean François (French artist), Milford Haven [Wales] Sugar, So:391 Dyfed (Economy), D:362 Milking machine, M:470 Barbizon School, B:107 Presell Pembrokeshire, P:763 Mllkweed, M:470 with picture Milford Sound [New Zealand], M:464 Milkweed butterfly Homer, Winslow, H:255 Milhaud, Darius (French-born com-Butterfly, B:684 with pictures Milliammeter linstrument poser), M:464 Miliky Way, M:470 Galvanometer, G:18 Millibar (unit of measure) Military aeropiane Astronomy (The sky at different lati-Air (Weight and pressure), A:184 Aeroplane, A:89 tudes), A:688; picture on A:692 Bomber, B:443 with pictures and dia-Barometer, B:115 Galaxy, G:10 Isobar, I:425 with diagram oram Nebula, N:64 Millicurie lunit of measure Guided missile, G:406; (Kinds of Solar system, So:26 with picture guided missiles) G:408 Supernova, So:428 Curie, Ci:501 Helicopter (For military missions), Universe, U:265 Milligram See Weights and measures H:138 with picture Mill at Wijk, The painting by Ruisdaell Millikan, Robert Andrews American Military band Ruisdael, Jacob van picture on, R:453 physicistl, M:474 Band, B:74 Mill on the Floss, The book by Eliotl Electricity (Electrons and electricity), Military brasses Eliot, George, E:210 Brass rubbing, B:525 Mill, Harriet Taylor [British writer], E:172 Military law Electron, E:178 Nobel Prizes (Physics), N:226 See Martial law Mill, James (British writer), M:471 Physics (Uncovering the secrets of the Military League [Greece] Utilitarianism, U:287 Greece (George I), G:342 atom), P:478 Mill, John Stuart British philosopherl. Military personnel Millitre Address, Forms of, A:41 See Metric system Economics (The classical economists), **Military salute** Millimetre Salute, S:59 with pictures See Metric system Ethics (Systems of ethics). E:336 Military satellite Philosophy (Philosophy in the 1800's), Milling Copper, Cl:342 with diagram Satellite, Artificial, S:97 with picture P:426 Edison, Thomas Alva (Inventor industrialist of West Orangal, Edi Space exploration (Military missions), Political science (Liberalism), P:654 So:159 Utilitarianism, U:287 Flour (How white flour is milled), F234 Military science, M:465 Millais, Sir John Everett English See also list of Related Articles Gold, G:232 painterl, M:472 Machine tool, M:16 Military service, Compulsory Carlyle, Thomas picture on, C:203 Maize (The wet-milling industry), M:74; (The dry ing industry) M:74 Conscription, Ci:291 Pizarro, Francisco picture on, P:530 Military tank Pre-Raphaelite Brotherhood, P:762 See Tank Million, M:474 Millay, Edna St. Vincent American "Million-dollar baby" **Military Way** poetl, M:472 Doll (The early 1900's), D:247 Roman roads, R:347 Sonnet, So:42 Millipede [anima]], M:475 MIRRIA Millefiori glass Millivoltmeter Thermometer (Electrical thermome American Revolution (The beginning Glass (Types of art glass), G:198 of the war), A:325 Millennium, M:473 Mills, Freddle (British boxer), Mc175 ters), T:215 Army, A:591; (Armies in the Middle Millepede Boxing (Professional boxing), B:496 Ages) A:592 See Millipede Mills, Robert American architect Colonial life in America (Colonial soci-Miller, Arthur (American playwright), Washington Monument, W:63 etyl, Cl:179 M:473

American literature (Drama), A:321

Drama (Later United States drama),

D:301; picture on D:284

United States picture on, U:205

Prehistoric people (The end of prehis

toric times), P:760

Milistone

Milly and Olly [book by Ward] Ward, Mary Augusta, W:39 Milne, A. A. [English author], M:475 with portrait Mingavie See Bearsden and Milngavie

Sorghum (Grain sorghums), So:44

Milos (Island), M:475 Milošević, Slobodan (Serbian political leader), M:475

Croatia (History), Cl:446 Serbla (History), S:268 Milstein, Nathan (Russian-born violin-Ist., M:476

Fish (Reproductive system), F:170 Miltiades [Athenian general], M:476 Marathon (The battle), M:196

Miltner, Franz (Austrian archaeologist) Seven Sleepers of Ephesus, S:279 Milton (work by Blake)

Blake, William, B:383

Milton, John (English poetl, M:476 with picture

Angel, A:364 Doré, Gustave picture on, D:268

Essay (Formal essays), E:330 Freedom of the press (History), F:438 Handicapped, H:44

Journalism (The first newspapers), j:151 May (Quotations), M:275 Milton Keynes (England), M:477 Buckinghamshire picture on, B:610

Town planning picture on, T:318 Milton's Prosody [poetry by Bridges] Bridges, Robert Seymour, B:570

Milwaukee (U.S.A.), M:477

Milwaukee Deep

Atlantic Ocean (The ocean bed), A:718 West indies (Land), W:169

Mimaland [Malaysia]

Selangor (Places to visit), S:243 Mimane

India, Philosophy of (Mirmansa), 1:135 Mimas (satellite)

Saturn (table), S:101 with picture; (Sateliltes) S:102

Mimbar

Islamic art (Architecture), 1:419 Mosque, M:633

Mlme, M:477

Drama (Roman drama), D:288 Rome, Ancient (Recreation), R:374 Mimeograph

Edison, Thomas Alva picture on, E:78

Mimetic criticism Criticism (Kinds of literary criticism),

Cl:442 Mimi

Australian Aborigines (Painting and

carving), A:837 Mimicry, M:478 Animal (How animals protect them-

selves), A:401; with picture **Butterfly (How butterflies protect** themselves), B:689 Humour (Types of humour), H:371 Insect, **1:259**

Leaf insect, L:133 with picture Protective coloration, P:812 with pic-

Mimosa [tree], M:478 with picture Min min [Australian phenomenon],

Minamoto (Japanese history) Japan (Rise of the Shoguns), J:56 Shogun, S:391

World, History of the (The rise of Japanese civilization), W:345

Minaret, M:479

Cairo, C:16

Islamic art picture on, 1:418 Mosque, M:633

Minas Gerais

Brazil (Birth of the republic), B:545

Minch, The [Scotland], M:479 Mind [psychology], M:479

Anaxagoras, A:351

Locke, John (His philosophy), L:351

Metaphysics, M:379

Mind reading, M:480 Clairvoyance, Cl:50

Extrasensory perception, E:433 Telepathy, T:104

Mindanao (Philippines), M:480 Philippines (The main islands), P:380

Mindoro (island) Philippines (The main Islands), P:383

Mindoro Strait

Disaster (Accidents), D:188

Mindszenty, Joseph Cardinal Hungarlan religious leaderl, M:480 with portrait

Hungary (Communist Hungary), H:383

See Mining

Mine Own Executioner book by Balchinl

Balchin, Nigel, B:38

Mine Owne John Poins | work by Wyattl Wyatt, Sir Thomas, W:425

Mine safety

Coal, Cl:131 with picture

Damp, D:18

Helmet picture on, H:146

Safety lamp, S:16 with picture

Mine warfare, M:481 with pictures

Minelayer (ship) Mine warfare (Naval mines), M:482

Miner Coal, Ci:119; (Coal industry) Ci:130

with pictures See also Mining

Miner, Jack [Canadian bird conserva-

tionisti, M:482

Mineral, M:483 with pictures See also list of Related Articles Antarctica, A:441

Arctic (Natural resources), A:542 Conservation, Cl:298 with diagram Drug (Sources of drugs), D:315

Earth (The earth's crust), E:20

Flotation process, F:236 Fossil (How fossils form), F:371

Magnetism, M:54 Mountain, M:666 New South Wales (Economy), N:130

Ocean, 0:390

Pacific Ocean (Importance of the ocean), P;15

Papua New Guinea, P:153

Soil, So:20

Sumatra, So:406

Mineral [nutrition]

Diet (Normal diet), D:169

Food (Regulating body processes), F:296

Milk. M:466

Nutrition, N:364

Mineral dressing

Metallurgy, M:375

Mineral fertilizer Fertilizer, F:59

Gardening (Analysing the soil), G:38; (Starting the garden) G:38 (Caring

for the garden) G:39

Mineral oil, M:489

Mineral water, M:489 Spring, So:240

Mineral wax

Wax, W:106 Mineral well

Well (Water wells), W:144

Mineralization

Water pollution (Effects), W:89 Mineralocorticold

Adrenal gland, A:57

Hormone (Blood composition hormones), H:276

Mineralogy

Geology (table), G:92 Mineral (History of mineralogy), M:488

Science (Geology), S:140

Minerva (Roman mythology), M:489 Mythology (table), M:758; (Roman divinities) M:759

Venus, V:338

Minesweeper [ship], M:489

Mine warfare (Detecting navai mines), M:482 with picture

Warship picture on, W:45

Ming dynasty (Chinese history), M:489

with picture

Asia (Nomadic invasions), A:658 Belling (History), B:205

China, C:460; (The arts) C:446

Great Wall of China, G:329

Jade, 3:9 with picture Nanjing (History), N:15

Ming porcelain

Ming dynasty picture on, M:490

Mingechaur dam

Azerbaijan (Land and climate), A:897

Miniature Byzantine art (Other art forms), B:699

France picture on, F:403 Manuscript (Illustrated manuscripts),

M:172 Miniature bull terrier, M:490 with pic-

ture

Miniature pinscher, M:490 Dog picture on, D:234 Miniature schnauzer, M:490 Minibike

Motorcycle (Kinds), M:652

and map

A:521

Minoan architecture

Minnow [fish], M:498 with picture

Architecture (Minoan architecture),

Minicam Minoan civilization subtraction) So:374 journalism (Television journalism), Aegean civilization (The Minoan cul-Minuet [dance], M:504 Minuit, Peter Dutch colonial governor ture), A:67 Minim funit of measurel, M:490 Architecture (Minoan architecture), M:504 Minimalism A:521 Minus sign Glass, Philip, G:201 Crete. CE422 Subtraction (Writing subtraction), South Africa, Art of (Overseas Influ-Galley, G:16 So:374 encel. So: 71 Greece, Ancient (History), G:352 Minute Parliamentary procedure (Holding Minimata disease, M:490 Painting (Cretan painting), P:46 with Minimum tiliage meetings). P:195 Minute [unit of measure], M:504 Conservation (Soil conservation), Sculpture (Aegean), S:195 with picture Inertial guidance (How inertial guid-Cl:293 Ship (Minoan and Mycenaean ships), Minimum wage, M:490 ance works), I:227 Economics (Distribution of incomes), World, History of the (The Greeks), Time (Measuring time), T:256 F:62 Minuteman (American history), M:505 W:338 Mining bee Minor (law), M:499 Minyan Bee, B:190 with picture Minor planet Judaism (Worship), J:155 Mining, M:491 with pictures Asteroid, A:678 Miocene Epoch See also list of Related Articles Minor scale (music) Earth (The Cenozoic Era), E:28; table Asbestos (How asbestos is mined and Music (The elements of music), M:729 02 F:30 processed). A:618 with diagram Michippus Coal (How coal is mined). Ch:123 with Minorca [island], M:499 Horse (Origins of the horse), H:303 pictures and diagrams Minority group, M:499 with picture Miguelon (Island, Atlantic Conservation (Mineral conservation), See also list of Related Articles Saint-Pierre and Miguelon, \$44 CI:298 Minority Report book by Ricel Mira [astronomy], M:505 Gold rush pictures on, G:238 Mira Bai [Indian poetess], M:505 Rice, Elmer, R:267 Ocean (Minerals), 0:390 Mirabeau, Comte de [French states: Minority status Opal, 0:454 with picture Minority group, M:499 manl, M:505 Technology (Easier labour), T:85; pic-Minos [Greek mythology], M:501 Miracle (religion), M:506 ture on T:87 Aegean civilization (The Minoan cul-Jesus Christ, J:98 with picture Saint (Roman Catholic saints), 5:28 Mining engineering ture), A:67 Miracle of Mullion Hill, The poetry by Engineering (Materials engineering), Daedalus, Dt3 Hades, H:4 Campbell Minion [ship] Campbell, David, C:63 Hercules (The second six labours), Drake, Sir Francis (Early life), D:280 Miracle play, M:506 H:164 Drama (Medieval drama), D:290 Minister [government] Labyrinth, L.6 French literature (Early drams), FAM Address, Forms of, A:41 Minotaur, M:502 Cabinet, C:3 Minot, George Richards (American **Miraflores Locks** Panama Canal, P:123 with picture Parliament, P:190 doctor), M:501 Mirage [illuston], M:506 with picture Minister [international relations], M:496 Minotaur [Greek mythology], M:502 Minister [religion], M:496 Miramar [book by Mahfouz] with picture Mahfouz, Naguib, M:68 Ministry (government), M:496 Daedalus, D:3 Miranda, Francisco de l'Venezuela P Mink lanimal), M:496 with pictures Labyrinth, L:6 Fur (table), F:488; picture on F:489 triot), M:507 Theseus, T:218 Mink farm Minsk Icity, Belarus), M:502 Adir (space station) Space exploration, So:156; picture of Mink, M:497 Belarus, B:206 with picture; (Soviet Minke whale rule) B:210 So:155 Mireille (work by Mistral) Whale, W:207 Moscow, M:624 Minkowski, Hermann German mathe-Mistral, Frédéric, M:516 Minstrel, M:502 with picture Miró, Joan (Spanish painter), M:507 maticiani See also list of Related Articles Fourth dimension, F:376 Ballad, B:45 Painting (Surrealism), Pa3; picture of with picture Relativity (Special theory of relativity), Minstrel show, M:502 Foster, Stephen Collins, F:374 Minkowski, Oscar (German physician) Mirra [play by Alfleri] Popular music (The development of Insulin (Diabetes), 1:271 Alfieri, Vittorio, A:249 popular music), P:682 Mirror, M:507 with diagrams Minneapolis [U.S.A.], M:497 Minstrelsy of the Scottish Border Aberration, A:11 with diagram Minnesinger [poetry], M:497 (book by Scott) Classical music (The Middle Ages), Heliograph, **H:142** Scott, Sir Walter (His life), S:175 Solar energy (Creating electricity). Mint [money], M:503 with picture German literature (The first golden Telescope (Optical telescopes), Tifts: So:25 with picture Canberra (Places to visit), C:116 age), G:107 Mint [plant], M:503 with picture (Recent developments in tele Minstrel, M:502 with picture scopes) T:116; pictures on T:1N See also list of Related Articles Walther von der Vogelweide, W:29 Minto, Earl of British colonial adminis-Mirror galvanometer Cables (The Atlantic telegraph cable) Minnesota [U.S.A.], M:497 with picture trator], M:504

Mintoff, Dom [Maltese political leader],

(Subtraction terms), So:373; (Writing

Kelvin, Lord, K:214

Mirror of the World, The book Encyclopedia (From the 1200's to the

M:504

Minuend

Malta (History), M:123

1600's), E:240 Mirrors imusic by Ravel] Ravel, Maurice, R:146

Guided missile (The warhead), G:407 with diagram

Mirzá Husavn-Ali See Bahá'u'lláh

Miscarriage, M:508

See also Abortion Pregnancy, P:742

Misch metal

Neodymlum, N:73

Praseodymium, P:739 Rare earth, R:139

Misérables, Les (book by Hugo) Hugo, Victor Marie (His works), H:343

Miseries and Misfortunes of War. The work by Callot

Callot, Jacques, C:42 Misery book by Kingl King, Stephen, K:255

Mishima, Yukio [Japanese novelist], M:508

Mishnah (Talmud)

Akiva ben Joseph, A:222 lews (The Talmudic period), 1:114 Talmud, T:18

Mishneh Torah (book by Maimonides)

Maimonides, Moses, M::69

Mirkito Indians

Honduras (People), H:259

Mirkelc [Hungary], M:508

Miss Bretherton [book by Ward] Ward, Mary Augusta, W:39

Miss Herbert (The Suburban Wife)

book by Stead! Stead, Christina, So:307

Miss Lonelyhearts (book by West)

West, Nathanael, W:156

Missa Pro Defunctis Imusic by Thomson!

Thomson, Virgil, T:224 **Missale Speciale**

Constance Missal, Cl:307

Missense mutation Heredity (Mutation), H:168

Missile boat, M:508 with picture Warship picture on, W:45

Missile defence Radar, R:55

Missile, Gulded See Guided missile

Mission control

Space exploration (Space exploration terms), So:130; (Communicating With the earth) So:138 with picfune

Mission specialist

Space exploration (The shuttle era begins), So:158

Mission training

Astronaut, A:682 Missionary, M:509

See also list of Related Articles Baptists (Early history), B:100 Ireland, History of (Irish missionaries),

New Zealand, History of (The mission-

aries), N:167

Roman Catholic Church (The nature of the church), R:335

Treaty (Ecclesiastical treaties), T:370

Mississippi (U.S.A.), M:510 with picture and map

Mississippi Bubble

See Mississippi Scheme

Mississippi River, M:511 with pictures and map

See also list of Related Articles

American Civil War (Fight for control of the Mississippi River). A:307

De Soto, Hernando (Journey to the Mississippi), D:135 with map

lowa, 1:329

Mississippi Scheme, M:513 Mississippian Period

Earth (The Palaeozoic Era), E:27

Mississippi [ship]

Perry, Matthew Calbraith, P:291 Missouri (ship)

Battleship (The rebirth of the battleship), B:158 with picture

Missouri [U.S.A.], M:513 with pictures and map

Missouri River, M:514 with picture

Mist [weather]

Fog, F:284

Mist work by Unamuno Unamuno, Miguel de, U:20

Mister Roberts [film] Cagney, James, C:15

Mistle thrush Thrush, T:231

Mistletoe (plant), M:515

Christmas, C:495 Parasite (Parasites that feed on plants),

Plant (Photosynthesis), P:562 with pic-

Polsonous plant (table), P:621

Mistral, Frédéric (French poet), M:516

Nobel Prizes (Literature), N:232 Mistral (weather), M:516

France (Climate), F:407

Mistral, Gabriela (Chilean poet), M:516 Latin-American literature (The early 1900's), L:96

Mitanni lancient kingdom, Mesopotamial, M:516

Mitchell grass, M:518

Mitchell Library (Australia), M:518

Mitchell, Sir Thomas Australian writer Australia, Literature of (Early prose),

Mitchell, Arthur (American ballet dancerl, M:516 with picture

Mitchell, Billy (American Army general),

Mitchell, Dame Roma iAustralian judgel, M:517

Mitchell, David Scott (Australian collectorl, M:517 Mitcheil, Helen Porter

See Melba, Dame Nellie

Mitchell, James (Irish politician), M:517 Mitchell, Margaret (American author), M:517 with portrait

Mitchell, Reginald Joseph (British aeronautical engineerl, M:517

Mitchell, Sir Thomas Livingstone (Australian explorer), M:517 with pictures and map

Victoria (History), V:364 Mitchell, Wesley Clair (American econ-

omisti, M:518 Economics (New solutions for old

problems). E:65

Mitchison, Naomi (British writer), M0518

Mite [animal], M:518

Apple (Pests and diseases), A:478 Bee. 8:189

Cat (Veterinary care), C:253

Pig (Diseases), P:494

Mitford, Jessica English author), M:519 Mitford, Nancy (English author), M:519

Mitford, Unity (English political activist), M:519

Mithra [god], M:519 Mysteries, M:750

Persia, Ancient (Religion), P:293 Zoroastrianism,, Z:507

Mithridates VI lking of Pontusi, M:519 Sulla, Lucius Cornelius, Soc396

See Lesbos

Mitia lancient city, Mexicol

Oaxaca, 0:378 **Mitochondria**

Call. C:295

Muscle (Skeletal muscles), M:714

Mitosis

Cell, C:296

Heredity (Sex cells and reproduction),

Mitra, Ramon V. Filipino political leader), M:519

Mitral valve (anatomy)

Heart (Valves), H:102

Mitral valve prolapse (MVP) [heart valve disorder), M:519

Mitropoulos, Dimitri (Greek conductorl, M:520

Mitsotakis, Constantine (Greek politicai leaderl

Greece (Recent developments), G:437 Mitterrand, François-Maurice (French

political leaderl, Mr520 with portrait France (Recent developments), Fi418 President (Dual presidency), P:764

Mix, Tom (American film actor), M:520 Mixed economy

Capitalism (in a mixed economy), C:146

Economics, E:61

Industry (Under different economic systems), 1:222

Socialism (Goals and methods of socialism), So:9

World (Economic systems), W:323

Mixed hearing loss

Deafness (Types of hearing disorders),

Mixed Marriage Iwork by Ervine Ervine, St. John, E:323 Mixed number

Moby-Dick (book by Melville)

Kent, Rockwell, K:222

Melville, Herman, M:340

A-314

American literature (The romance),

Modern Instance, A [book by Howelld Novel (The United States), N:313 Fractions (Fraction terms), F:384 Howells, William Dean, H:335 Romance, R:348 Mixed tide Modern Painters (book by Ruskin) Sperm whale, So:213 Tide (High tides and low tides), T:242 Moccasin (shoe), M:525 Ruskin, John, R:460 Indian, American (Clothing), 1:139; (in-Modern Pentathlon Recording industry (In a recording stu-Olympic Games table on, 0:439 dian ways of life) I:142 dio), R:167 Modern pentathion [sports] Shoe (Kinds of shoes), S:389 with pic-Rubber, R:435 Olympic Games (The Summer Games) Mizoram, M:520 with map ture 0-434 Moccasin snake Modern philosophy See Mademoiselle ... Water moccasin, W:87 Philosophy, P:424 Mochica portrait lar Mmabatho, M:521 with picture Sculpture (Mature Indian sculpture), Modern sculpture Mme. Sculpture (As artistic expression), See Madame ... Mock orange [plant], M:525 with pic-S:189, (Modern international Mn (symbol) sculpture) S:215 with pictures ture Manganese, M:152 Modern style M'Naghten Rules, M:521 Mock-up Interior decoration (Style), 1:283 Aeroplane (Design and testing), A:103 M'Naghten, Daniel Modern times with picture Insanity, I:239 Astronaut (Mission training), A:682 Government, G:276 M'Naghten Rules, M:521 History (The divisions of history), Mockernut hickory M'Naghten's Case Hickory, H:191 Insanity, I:239 Modernism Mockingbird, M:525 with picture M'Naghten's Rules, M:521 Roman Catholic Church (The church **Mnemonic devices** Mode (statistics), M:525 today), R:344 Average, A:877 Memory, M:342 Modernism (literature) Mnemosyne [Greek mythology] Model (economics) American literature (The world wars Muses, M:717 Econometrics, E:59 and depression), A:316; (Modent Mo [symbol] Model aeroplane Aeroplane, Model, A:106 with picist fiction) A:317 Molybdenum, M:537 Latin-American literature, L:96 Moa (bird), M:521 with picture tures Spanish literature, So:198 Model car Bird picture on, B:356 Woolf, Virginia, W:313 See Car, Model Moabite stone, M:522 Modest Proposal, A (book by Swift) Model of a ball court with spectators Moabites [people] Swift, Jonathan (His life), So:481; Jordan (Early days), 1:144 [Mayan sculpture] (Swift's other works) So:482 Moabite stone, M:522 Sculpture (As a record of history), Modified Mercalli Intensity Scale Moai (sculpture) S:186 with picture Richter magnitude, R:271 Easter Island, E:44 with picture Model Parliament (English history), Modigliani, Amedeo Italian artist, Most M:526 with picture See Castle England (The beginnings of Parlia-Painting, P:81 picture on P:84 Mob ment), E:276 Modoc War Australia (Language), A:751 Model railway Indian Wars, I:177 Mobile (art), M:523 with picture See Railway, Model Modulation Calder, Alexander, C:32 **Model rocket** Music (Harmony), **M:730** Sculpture (Movement), S:191; picture See Rocket, Model Modulator Model ship Radar, R:60 with diagram Mobile (U.S.A.), M:522 with picture See Ship, Model Mobile arts Model T Module Space exploration (Space exploration Fine arts, F:110 See Ford, Henry terms), So:130 Mobile home, M:523 with picture Model train Mobile library, M:524 with picture See Railway, Model Moerltherium Prehistoric animal (The development Mobile shop Modelling of placentals), P:747 Retailing, R:245 Sculpture (The sculptor at work), \$:192 See Dumfries and Galloway Region Mobile telephone Moffat with picture Moffat, Robert (Scottish missionary) Telephone, T:108 Modem **Mobility map** Computer, Ch260 M:526 Map, M:183 Computer, Personal (Hardware), Moffatt, James (Scottish Biblical Möbius strip, M:524 with diagram scholarl, M:526 Bible (Modern English translations), Möblus, August Ferdinand (German Telephone (Computer services), T:108 astronomer], M:524 Moderator B:277 Mathematics (In the 1800's), M:260 Nuclear energy (Nuclear fission), N:321 Mogadishu [Somalia], M:526 Mobutu Sese Seko [president of Zaire], Nuclear reactor, N:333 Somalia, So:34 M:524 with portrait Modern cathedrals **Mogambo** [film] Zaire (National government), Z:480; Cathedral (Modern cathedrals), C:265 Kelly, Grace, K:213 (Civil disorder) Z:486; (Rebuilding Modern dance Mogilev Belarus (Government), B:208 the nation) Z:486 Dancing (Why people dance), D:22;

(Kinds of dancing) D:23

History (Modern times), H:226

English language, E:282

Modern English

Modern history

Mogul Empire

See Mughal Empire

Mohács, Battle of [1526]

Croatia (History), Ci:446

with pictures Moldavla Mohair, M:526 Prehistoric animal (Invertebrates), See Moldova Angora, A:374 P:746 Moldova, M:528 with picture and map Goat (Products), G:221 Mollusca Flag picture on, F:209 Mohammad Animal (A classification of the animal Moldovans [people] See Muhammad kingdom), A:414 Mohammad Reza Pahlavi (shah of Moldova (People), M:528 Molnár, Ferenc (Hungarian dramatist), Mole (food) Irani, M:527 with portrait M:537 Mexico (Food and drink), M:405 Iran (World War I and Reza Shah), Hungary (Arts), H:377 Mole [mammal], M:530 with picture 1:339 Molokai (island) Male (skip blemish), M:531 Khomelni, Ruhollah, K:41 Hawaii (Land), H:80 Birthmark, B:369 Mohammed Molopo Iriver, South Africal Skin (Tumours), S:470 See Muhammad North West (Rivers), N:264 Mole [unit of measure], M:531 Mohammed Euros bin Abdullah Molotov, Vyachesiav Mikhailovich Mole cricket, M:531 [Malay journalist], M:527 Russian political leaderl, M:537 Mole-rat, M:531 Mohammed, Murtala Ramat [Nigerian Stalin, Joseph picture on, So:269 Mole Valley [England], M:531 with picmilitary leader] Moltke, Helmuth Karl von [Prussian ture Mgeria (Nigeria today), N:214 military leader), M:537 Molecular biology, M:532 Mohammedanism Moluccas Biology (table), B:305 See Islam: Muslims indonesia, 1:190 Science (Other branches), 5:141 Mohawk (tribe) Netherlands (Recent developments), Indian, American (Indians of the North-Molecular genetics Genetics, G:81 east), 1:152 Molybdenum (element), M:537 Heredity, H:165 Mohenio-Daro (ancient city) Alloy (Alloys of Iron), A:278 Molecular-orbital theory Sculpture (Indus Valley), S:196 Molyneaux, James Henry (Irish politi-Mulliken, Robert Sanderson, M:692 Mohism cian), M:537 Molecular physics Philosophy (Oriental philosophy), Momaday, N. Scott [American writer] Physics, P:473 American literature (Fiction and other Molecular weight Moholy-Nagy, László (Hungarianprose), A:320 See Molecule American artist Mombasa [Kenya], M:538 Molecule, M:532 Photography (The photographic revo-Moment [physics], M:538 See also list of Related Articles lution), P:463 Gravity, Centre of, G:310 Debye, Peter Joseph William, D:64 Mohorovičić dicontinuity Moment magnitude Gas (How gases behave), G:58 Earthquake (Recording, measuring, Earth (The earth's crust), E:20 Human body (What the body is made and locating earthquakes), E:37 Mohs scale of), H:350 Gem (Qualities of gem minerals), G:70 Moment of inertia Magnetic resonance imaging, M:52 Mineral (Hardness), M:486 Moment, M:538 Physics (Atomic, molecular, and elec-Mohs, Friedrich (German mineralogist) Momentum, M:538 tron physics), P:473 Mineral (Hardness), M:486 Motion, M:647 **Molesworth Committee** Mol, Daniel Toroitich arap ipresident Quantum mechanics, Q:6 Australia, History of (Transportation Mommsen, Theodor (German histoof Kenyal, M:527 with portrait Molety ends), A:802 Molière (French dramatist), M:534 with Nobel Prizes (table: Nobel Prizes for lit-Indian, American (Family groups), 1:139 Meiré pattern, M:527 with picture portrait erature, 1902), N:232 Drama picture on, D:284; (French neo-Molssan, Henri (French chemist) Rome, Ancient (Learning about ancient classical drama) D:294 Fluorine, F:275 Rome), R:383 French literature (Classical drama). Nobel Prizes (Chemistry), N:228 Môn or Mona Moisture F:447 See Anglesey; Gwynedd Molina, Tirso de Air conditioning (Controlling the mois-Mona [island] See Tirso de Molina Puerto Rico (Land and cilmate), P:848 ture), A:192 Moll Flanders (book by Defoe) See also Humidity Mona Lisa ipainting by Leonardo da Defoe, Daniel (His writings), D:84 Weather, W:112 Novel (The first English novelists), Mojave Desert [U.S.A.], M:528 Leonardo da Vinci, L:177 with picture; California (Land), C:38 N:312 (Return to Florence) L:178; (Paint-Molle, George James (British colonial Moko disease ings) L:180 administrator), M:535 Banana (How bananas grow), B:71 Mona Lisa of Nimrud (carving) Moksha (religion) Mollie Assyrla picture on, A:676 Fish picture on, F:165 Hinduism (Devotion and ahimsa), Monaco, M:539 with picture and map Molloy, Georgiana [Australian bota-H:210 Europe (table), E:359 nistl, M:535 Karma, K:195 Flag picture on, F:209 Mollusc, M;535 Manu, **M:166** Kelly, Grace, K:213 See also list of Related Articles Religion (A doctrine of salvation), Monte Carlo, M:574 with picture Aquaculture, A:483 R:198 Rainier III, R:120 Heart (Animals without a backbone), Mol [symbol] Royal familles, R:419 Mole lunit of measurel, M:531 Monaghan [Ireland], M:540 with picture H:113

Invertebrate, 1:322

Ocean (The nekton), O:392 with pic-

Pearl (How pearls are formed), P:233

Larva, L:66

tures

llephant (Tusks and teeth), E:204

Goat (Digestive system), G:222 Teeth, T:90 with pictures

Molasses, M:528

and map

Arms picture on, A:588

Bird picture on, B:324

Renoir, Pierre Auguste, R:222

Monetarist

(Mongol rule) R:485 with picture Economics (New solutions for old Monarch [title] Turkmenistan (History), T:468 problems), E:65 Address, Forms of, A:40 Mongoose [animal], M:561 with picture Monetary policy leconomicsl Monarch butterfly Depression [business activity], D:125 Mongrel Animal (Animal travellers), A:410 Inflation (Weapons against inflation), Dog (Kinds of dogs), D:236 Butterfly picture on, B:685 Pets (Choosing a pet), P:320 Insect (table), 1:262 Recession (Fighting recession), R:162 Monistic theories Monarch (sculpture by Bhagat) Monetary system Solar system, So:27 Sculpture (Varieties of abstraction), Trade (The use of money), T:325 Monitor Computer, Personal (Hardware), Money (book by Bulwer-Lytton) Monarchy (government), M:541 Ci:269 Bulwer-Lytton, Edward George Earle See also list of Related Articles Lytton, B:643 Television (Closed-circuit television) Monash, Sir John [Australian military T:120 with picture; (The control Money, M:547 with pictures commander], M:541 with portrait See also list of Related Articles soom) T:124 with picture Monastery [religion], M:542 Colonial life in America (Trade and in-Monitor and Merrimack [ships], MSQ See also list of Related Articles dustry), Ci:185 Ericsson, John, E:319 Architecture (Carolingian architecture), Navy (Engineering advances), Nat Economics (Important terms in eco-Warship (Warships of the 1800's), nomics), E:65 Bhutan (People), B:268 with picture Gold (Uses of gold), G:233 Book (The Middle Ages), B:455 Monitor lizard, M:561 Indian, American (Money), 1:149 Cloister, Ci:87 Goanna (reptile). G:221 with picture Pound, P:727 Hermit, H:179 Monk (religion), M:562 Library (The Middle Ages), L:231 with Sait (History of salt), S:57 Asia picture on, A:637 Money from Home (book by Runyon) Clothing picture on, Ci:93 Middle Ages (The Christian Church), Runyon, Damon, R:459 Friar, F:458 Money income M:446 Hermit, H:179 New Norcia, N:119 with picture Income, 1:52 See also Religious life Money market fund, M:557 Monasticism [religion], M:544 Monasticism, M:544 with picture Unit trust. U:38 Basil, Saint, B:132 World, History of the picture on, Money (The role of a central bank), Roman Catholic Church (The recogni-W:344 M:553 tion of Christianity), R:339; (The Monk, George (English general), M50 Money wages Middle Ages) R:340 England (The Restoration), E:279 Wages and hours (Wages), W:2 Monazite [mineral], M:545 Monk, Thelonious [American com-Holmium, H:249 Mongkut iking of Thailandl poserl, M:562 Thailand (A new dynasty), T:184 Ytterbium, Y:468 Jazz (Bebop), J:76 Mongol Empire, M:557 with pictures Yttrium, Y:469 Monkey, M:562 with pictures and map Monck, Viscount Igovernor general of-Animal (A table of animal intelligence) Canadal, M:545 with portrait See also list of Related Articles A:401; (Group care) A:408; plc-China (Mongol rule), C:460 Mönckeberg's degeneration tures on A:389, A:407 Genghis Khan, G:83 Arteriosclerosis, A:605 Animal (When animals appeared on Russia (Mongol rule), R:485 Moncrieff, Gladys [Australian musical the earth), A:411 Mongolia, M:559 with map comedy starl, M:545 Monkey bread Mond, Ludwig [German-born British See also list of Related Articles Baobab, B:99 chemist], M:545 Asia (Life of the people), A:643 Monkey Business (work by Perelman) Monday [day], M:545 Asia (Way of life in Central Asia), A:643 Perelman, S. J., P:279 Monday Chats [book by Sainte-Beuve] **Exploration (East-West contact** Monkey-eating eagle Sainte-Beuve, Charles Augustin, S:47 resumes). E:419 Eagle (Other kinds of eagles), E5 Monday's Tales [work by Daudet] Flag picture on, F:206 Monkey flower, M:567 Genghis Khan, G:83 Daudet, Alphonse, D:42 Monkey puzzle tree, M:567 Mongolian Border Uplands Mondrian, Piet [Dutch artist], M:545 Monkey terrier Painting, P:83 with picture China, C:449 Affenpinscher, A:109 with picture Monel metal [alloy], M:545 Mongolian gerbii (animal) Monkeypod tree Nickel, N:200 Gerbil, G:105 with picture Rain tree, R:119 Monklands (Scotland), M:567 with pic Moneran, M:546 Mongolism Down syndrome, D:277 Algae, A:250 Animal, A:376 Mongoloids Monmouth [Wales], M:567 Gwent (Places to visit), G:437 Bacteria, B:19 Europe (Racial groups), E:363 Monmouth, Duke of English history Classification, Scientific (Kingdom), Races, Human (Systems of racial classification), R:43 Kingdom, K:256 Mongols [people] Rye House Plot, R:509 Monmouthshire [Wales], M:567 Plant, P:540 Asia (People), A:643 Protist, P:817 Beijing (History), B:205 Monnet, Jean French businessmanl Monet, Claude (French painter), M:546 China (Nationalities), C:438 Genghis Khan, G:83 with picture M:567 Impressionism (French impression-Iran (The rise of Islam), 1:338 Mono-block process Kazakhstan (History), K:206 ism), I:46 Artillery, A:614 Painting (Impressionism), P:76 with Kublai Khan, K:339 Monochord Kyrgyzstan (History), K:350 picture Sonometer, So:42 Mongolia, M:559

Russia (The state of Kievan Rus), R:485;

Monoclinic crystal

Crystal (Classifying crystals), Ci:470 with picture Monoclonal antibody, M:568 Cancer (Other treatment), C:122 Immune system (The study of the immune system), I:43 Tissue transplant (Combating rejection), T:264 Monoclonius Dinosaur (Ornithischians), D:180 Monocotyledon [plant], M:568 Monocular vision Bird (Sight), B:352 with picture Monocyte Blood (Protecting against disease), Monocytes Immune system (Parts of the immune system), 1:39 Menoecious plant Botany (table), B:481 Monofilament thread Thread (Making thread from manufactured fibres), T:229 Monofilament yarn Textile (Making the yarn), T:172 Monogamy Family (Traditional families in other cultures), F:23 Marriage (Marriage in other cultures), M:219 Monomer, M:568 Plastics (The chemistry of plastics), P:578 Polyethylene, P:661 Polymer, P:661 Rubber (The chemistry of natural rubber), R:438 Monomer [chemistry] Polymerization, P:661 Monomial [mathematics] Algebra (Other definitions), A:256 Mononucleosis Disease (table), D:190 Glandular fever, G:184 Monophonic song Song, So:40 Monophysite doctrine Copts, Cl:345 Monophysitism Roman Catholic Church (The recognition of Christianity), R:338 Monoplacophora Mollusc, M:537 Monoplane Aeroplane, A:74 Monopole [radio] Aerial (Receiving aerials), A:69 Monopolies and Mergers Commission, M:568 See also list of Related Articles Monopoly and competition, M:568 Economics (Markets, prices, and competition), E:62; (Public utilities) E:63; table on E:65 Industry (Industrial organization), 1:224

Inflation (Theories about the causes of

inflation), 1:230

Price, P:774

Public utility (Ownership), P:843 Monorall, M:569 with pictures Monosaccharide Carbohydrate (Simple carbohydrates), C:187 with diagram; (How the body uses carbohydrates) C:187 Glucose, G:215 Life (Carbohydrates), L:248 Saccharides, S:6 Sugar (Kinds of sugar), So:390 Monosodium glutamate (MSG), M:570 Wheat (Other uses), W:216 Monotheism Asia (Religions), A:631 Polytheism, P:662 Religion (Belief in a deity), R:197 Theism, T:211 Monotreme Mammal, M:133 with pictures Monotype [printing], M:570 Printing (Typesetting), P:781 Type (History), T:484 Monounsaturated fat Nutrition (Fats), N:363 Monozygotic twin Multiple birth (How multiple births occur), M:693 Monroe Doctrine, M:571 Monroe, James, M:570 Monroe, James [U.S. president], M:570 Monroe, Marilyn | American film actressl, M:571 with portrait DiMaggio, Joe, D:173 Miller, Arthur, M:473 Warhol, Andy, W:39 with picture Monroe, William (American cabinetmaker] Pencil (History), P:255 Monrovia (Liberial, M:572 Mons |Belgium|, M:572 Monsarrat, Nicholas (British author), M:572 Monsignor Ititlel, M:572 Monsoon, M:572 Asia (Climate), A:648 Assam (Land), A:670 with picture Bihar (Rivers), B:289 Burma, B:659 Cambodia (Land), C:46 China (Climate), C:453 Gujarat (Land features), G:422 India (The rainy season), 1:72 Indian Ocean (Winds), I:169 Indonesia (Climate), 1:190 Japan (Climate), J:50 Korea (Climate), K:326 Rain (Variations in rainfall), R:118 Thailand (Climate), T:183 Vietnam (Climate), V:377 Wind (Local winds), W:268 Monster See Dracula; Dragon; Frankenstein;

Loch Ness monster: See also the Monsters and creatures section of the Mythology article. Monstera (plant), M:572 Mont Blanc [mountain], M:572 with picture

France (The land), F:404 Mont Cenis Tunnel Fréius Tunnels, F:439 Mont Pelée (volcano), M:573 Mont Sainte-Victoire [painting by Cézannel Cézanne, Paul, C:331 with picture **Mont Tendre** Switzerland (The Jura Mountains), Sc:495 Montalgne, Michel Eyquem de French writerl, M:573 French literature (The Renaissance), FMAG Montan wax Wax (Mineral wax), W:106 Montana [U.S.A.], M:573 with map Montcaim, Marquis de [French generall, M:574 with portrait Wolfe, James, W:287 Monte Albán lancient city, Mexicol Oaxaca, O:378 Monte Bello Islands, M:574 Monte Carlo (Monaco), M:574 with pictures and map Monaco, M:539 with picture Monte Cassino Italyi, M:574 Monte Cristo (Island), M:574 Montego Bay, M:575 Free port, F:430 **Montenegrins** Montenegro (People), M:575 Montenegro [Yugoslavia], M:575 with picture and map Balkans (The First Balkan War), B:44; (The Second Balkan War) B:44 Serbia, S:266 Yugoslavia, Y:470; (History) Y:477 Monterey pine Radiata pine, R:63 Monterrey [Mexico], M:576 Montesquieu (French philosopher), Age of Reason (The Orderliness of nature), A:157 Democracy (French contributions to democracy), D:104 Freedom (During the Age of Reason), French literature (The Age of Reason), Political science (Liberalism), P:654 Montessori method, The lbook by Montessoril Montessori, Maria, M:576 Montessori method, M:576 Montessori, Maria (Italian educator), M:576 Monteux, Pierre (French conductor), M:577 Monteverdi, Claudio (Italian composerl, M:577 Italy (Music), 1:458

Opera (Early baroque opera), 0:463

Aztec (Growth of the Aztec empire),

Montevideo, M:577 with picture

Uruguay, U:279 with picture

Montez, Lola [Irish actress], M:577

Montezuma I (Aztec ruler), M:577

Moods (book by Alcott)

Alcott, Louisa May, A:240

Moody, Dwight Lyman American

Moore, Henry English sculpted Men evangelistl, M:582 A:901 Moody, Harold, M:582 with picture Montezuma II [Aztec ruler], M:577 with Moody, Helen Wills Sculpture (Figurative form), \$:216 with See Wills, Helen Newington picture Aztec (Growth of the Aztec empire), Moon, M:583 with pictures and map United Kingdom picture on US7 A:901; (The Spanish conquest) See also list of Related Articles Moore, Marianne [American poet], Astronomy picture on, A:685; (The M:599 with portrait Cortés, Hernando (Conquest), Cl:368 nighttime sky) A:686 Poetry (Rhythm and metre), P.512 with picture Moore, Patrick British astronomer, Earth (The earth and its moon), E:18 Exploration (Spain's conquests in the M:599 with picture New World), E:422 Eclipse, E:53 with picture Moore, Sir John [British soldier], Mass Indian, American (Indians of Middle Harvest Moon, H:72 Jupiter (Satellites and ring), J:172 Moore, Thomas (Irish poet), M:599 Americal, I:160 Mexico (The Spanish conquest), M:418 Laser (Measuring), L:71 with picture Irish literature (Prose and poetry), 1:382 Montfort, Simon de l'English states-Magnetism (The magnetism of other astronomical bodies), M:57 Moorhen man), M:578 Month. M:580 Bird picture on, B:323 Montgolfler brothers [French balloon-Ocean (Tides), 0:395 Gallinule, G:16 ists. M:578 Space exploration (Establishing a base Aeroplane (First manned flights), A:76 Moorish art See Islamic art Balloon (History), B:63 on the moon), So:162 Moorish idol Montgomery [U.S.A.], M:578 Space exploration (Lunar probes), So:143 with picture; (Apollo: Mis-Fish picture on, F:162 Montgomery [Wales] Moors |people|, M:599 sion to the moon) So:148 with pic-Montgomeryshire picture on, M:579 Montgomery, Bernard Law (British tures and diagram Alhambra, A:267 with picture Boabdil, B:413 Army commanderl, M:578 with per-Tide (Tides follow the moon), T:240 Charlemagne (Military conquest), Moon for the Mishegotten, A [play by trait World War II (In northern Africa), Granada, G:291 34/-390 American literature (Drama), A:318 Mali (People), M:114 Montgomeryshire [Wales], M:579 Moon in My Packet book by Westl Mauritania (People), M:268 with pic-Month, M:579 West, Morris, W:155 Calendar, C:33 Moon rat (mammal), M:597 Sahara (People), S:19 Moon (The orbit of the moon), M:590 Moon rock Spanish language (Beginnings), Sott Time (Measuring time), T:256 Moon (What the moon is made of), Sri Lanka (People), So:256 Month in the Country, A lplay by Che-M:586 Moortown [poetry by Hughes] khov] "Moon train" Hughes, Ted, H:342 Drama (Russian drama and Chekhov), Space exploration picture on, So:140 Moose lanimall, M:600 with pictures D:298 Moon, Kelth British musicianl Animal picture on, A:386 Russian literature (Early realism), R:499 Who, The, W:241 with picture Ecology (Changes in ecosystems), ESI Montreal [Canada], M:579 with picture Moonflower (plant), M:597 Moot (public meeting), M:600 New France (Colonial life), N:113 Moonies Moped Montreal Protocol on Substances Cult (Modern cults), Ch489 See Motorcycle That deplete the Ozone Layer Moonlight, Captain (Australian bu-Mora, Juan Rafael [Costa Rican political Environmental pollution (Government shrangeri, M:597 leaderl, M:600 Moonstone [mineral], M:597 action), E:306 Moraine, M:601 Montrose, Marquess of Scottish no-Feldspar, F:48 Glacier (How glaciers shape the land) bleman), M:581 with portrait Gern picture on, G:73 G:175 with diagrams Monts, Sieur de (French explorer), Sculpture (Southeast Asia), S:199 Ice Age (Effects of the Ice sheets), 17 M:581 Moonstone, The [book by Collins] Moral Essays lessays by Popel New France (Exploration and settle-Collins, Wilkie, Cl:166 Essay (Formal essays), E:330 ment), N:112 Detective story (History), D:136 Pope, Alexander, P:680 Mont-Saint-Michel, M:573 Moonwalk book by Jacksoni Moral Tales |book by Edgeworth Montserrat [island], M:581 with picture Jackson, Michael, J:7 Edgeworth, Maria, E:76 and map Moor (land), M:597 Moral values CARICOM, C:199 Moor hen "Moral Warfare, The" [poem by White Montserrat (mountain), M:582 Gallinule, G:16 Montuna (clothing) Moore Brabazon, John Theodore Panama (Clothing), P:117 Cuthbert Whittier, John Greenleaf, W:241 Monument, M:582 See Brabazon of Tara, Lord Morale, M:601 Sculpture (As monuments and Moore, Bobby English soccer playerl. Moraies, Ramón Villeda [Honduran Fatigue, F:35 memorials), 5:188 with pictures. (later medieval sculpture) 5:210 Moore, Brian [frish writer] Honduras (Recent developments) with picture Irish literature (Irish literature today), Monumental brasses L384 Brass rubbing, B:525 H:263 Moore, Clement Clarke (American Morality play, M:601 Drama (Medieval drama), D:289 Mood Igrammar), M:582 scholarl, M:598 French literature (Early drama), FAS Conjugation, Ch:286 Moore, George Augustus Ilrish au-Mood Ipsychologyi, M:582 thor), M:598

Moore, George Edward (British philos-

Moore, Gerald British planistl, M:596

opher], M:598

Morals

Ethics, £:335

Islam, £414

Philosophy (Philosophy and science),

Moran, Lord (British doctor), M:601

Morane-Saulnier M S. 760 Aeropiane picture on, A:84

Morant, Harry [Australian settler],

Morant, Harry [Australian writer] Australia, Literature of (The bush bal-[ad], A:831

Morant, Sir Robert Laurie (English civil servantl, M:602

Moratin, Leandro Fernández de Spanish writer), M:602

Spanish literature (The 1800's), So:195

Moratorium, M:602

Japan (Fishing Industry), J:52

Morava River

Czechoslovakia (Early history), Cl:523

Moravia, M:602 with pictures Czech Republic, Ct:516

Czechs, Ci:526

Moravia, Alberto (Italian author), M:603

Moravian Church (religious group),

Moravian Duos imusic by Dvořáki Dvořák, Antonín, D:359

Moravian Lowlands

Czech Republic, Cl:518

Moray (fish) Eel. E:95

Moray (Scotland), M:604 Grampian, G:289

Moray Firth (Scotland), M:604 Scotland (Rivers and lakes), S:164

Mórda, Máel (king of Leinster) Ireland, History of (Rival kings), 1:370

Mordant [chemical], M:604 Citric acid, Ci:17

Dye (How dyes work), D:361 Lake, L:16

More Celtic Fairy Tales book by lacobs)

acobs, Joseph, J:8

More English Fairy Tales (book by Jacobs

lacobs, Joseph, J:8

More Monday Chats book by Sainte-Beuve) Sainte-Beuve, Charles Augustin, 5:47

More New Arabian Nights book by Stevenson]

Stevenson, Robert Louis (Stevenson's writings), So:322

More, Saint Thomas English authorl, M:604 with portrait

Biography (The Renaissance), B:301 Donne, John (His life), D:267

Renaissance, R:220

Utopia, U:288

Morelos y Pavón, José María

Latin America (The wars of independence), **L:90**

Mexico (Revolt against the Spaniards), M:419, M:419

Mores (customs), M:605

Moreton Bay [Australia], M:605 Queensland (Early settlement), Q:25 Moreton Bay fig (tree), M:605 Morgagni, Giovanni Battista Italian anatomistl, M:605

Morgan horse

Horse picture on, H:287 Morgan, Justin, M:607

Morgan, Daniel (Australian bushrangerl, M:606

Morgan, Garrett Augustus | American inventor), M:606 with picture

Morgan, John Pierpont [American bankerl, M:605 with portrait

Morgan, John Plerpont, Jr. (American bankerl, M:605

Morgan, Junius Spencer (American bankerl, M:605

Morgan, Justin (American horse breederl, M:607

Morgan, Sir Henry English piratel, M:606

Panama (The Spanish colonial period), P:119

Morgan, Thomas Hunt (American geneticisti, M:607

Biology (The growth of modern biologyl, B:307

Cell (The 1900's), C:303

Evolution (The synthetic theory), E:412 Heredity (The birth of genetics), H:174 Muller, Hermann Joseph, M:691 Nobel Prizes (Physiology or medicine),

N:230 Science (Science in the early 1900's),

S:149 Morganite

Beryl, B:261

Morganwg, Iolo (Welsh poet), M:607 Mörike, Eduard (German poet), M:607

Moriori [anthropology], M:607 Morison, Samuel Eliot (American histo-

rian], M:607 Morisot, Berthe French painterl,

M:607 with picture Impressionism (French impressionism), 1:46

Morland, George |British painter), M:608

Moriey, Edward W. [American scientist] Ether (physics), E:335 Michelson, Albert Abraham, M:436

Physics (Einsteln and relativity), P:477 Relativity (Special theory of relativity), R:191

Morley, Thomas English composerl, M:608

Mormon cricket, M:608 with picture Grasshopper (Long-horned grasshoppers), G:305

Mormon Tabernacle

Mormons picture on, M:609

Mormon Temple

Mormons, M:609 with picture

Mormons (religious group), M:608 See also list of Related Articles Smith, Joseph, \$:499 Utah, U:286 Young, Brigham, Y:462

Morne Diablotin [mountain] Dominica (Land and climate), D:256 Morne Gimle (mountain)

Saint Lucia (Land and climate), S:39

Morning glory [plant], M:610 with pic-

See also list of Related Articles

Morning sickness

Pregnancy (How pregnancy affects women), P:742

Morning star

Evening star, E:404

Lucifer, L:411

Morning Watch, The work by James Ageel

Agee, James, A:158

Mornington Island (Australia), M:610 Moro Naba

Burkina Faso (People), B:654

Ouagadougou, O:521

Morocco, M:611 with pictures and map See also list of Related Articles

Africa (Ways of life in northern Africa). A:125

Aviation (Aircraft nationality marks), A:881

Barbary States, B:105 with map Casablanca,, C:223

Flag picture on, F:201 Marrakech, M:218

Rabat, R:36

Royal families, R:422

Trade picture on, T:325

Morocco [film]

Dietrich, Marlene, D:170

Moroka (Rolong chiefl

South Africa, History of (White occupation of the Interior), So:79

Moroka, James

African National Congress (ANC), A:154

Moroni (Comoros), M:617 Comoros, Cl:245; picture on Cl:246

Moronobu [Japanese artist] Japanese print (The master print artists), J:65

Morpheus (Greek mythology), M:617

Morphine [drug], M:617 Analgesic, At349

Drug (Analgesics), D:313

Morpheus, M:617

Opiate, 0:476 Oplum, 0:476

Morphology [grammar] Syntax, So:518

Morphology (science), M:617

Botany, B:479 Morris dance

Essex picture on, E:331 Folk dancing, F:286

Morris-jones, Elfed (Welsh writer) Weish literature (Later literature),

Morris-jones, John (Welsh writer) Welsh literature (Later literature),

Morris, Desmond British Zoologisti,

Morris, Gouverneur | American statesman], M:617 Morris, Lewis | Welsh writer|

Mortimer, Edmund de (English noble-

Moses in Egypt lopera by Rossinia manl (1391-1425), M:622 Welsh literature (Later literature), Rossini, Gioacchino Antonio, R:404 Mortimer, Harry [British musician], Moses, Grandma American primitiva M:622 Morris, Richard [Welsh writer] Mortimer, Roger painterl, M:632 Welsh literature (Later literature), Moses, Phoebe Ann Edward II, E:93 Oakley, Annie, 0:375 with picture Mortimer, Roger de lEnglish noble-Morris, William [English designer], man] (12317-1282), M:622 Moshav M:617 with picture Israel (Rural life), E432 with picture Architecture (Early modern architec-Mortimer, Roger de lEnglish nobleman] (1287?-1330), M:622 Moshoeshoe (African king), M633 ture in Europe), A:532 Book (The 1800's), B:457 with picture South Africa, History of (Turmoil in the Mortise lock Interior), So:79; portrait on So:00 Lock, L:349 with picture B:457 Morton, Jelly Roll (American jazz musi-Moshoeshoe (South African chiefl Knights and knighthood (Knighthood Free State (History), F:432 in literature), K:303 Jazz (Early Jazz), J:75; picture on J:74 Moslems Morrison, Baron Morton, William Thomas Green See Muslims See Morrison, Herbert Stanley Mosley, Sir Oswald [British politician, Morrison, Herbert Stanley (British po-[American dentist], M:622 Drug (The drug revolution), D:318 litical leader], M:618 with portrait Mosque [religion], M:633 Morrison, Toni (American author), Ether Ichemistryl, E:335 Algeria (City life), A:262 M:618 Morula [biology] Architecture (Islamic architecture), American literature (Fiction and other Embryo (Human development), E:227 Mosaic (art), M:622 with pictures prose), A:320 with portrait Cairo, C:16 Architecture (Medieval architecture), Nobel Prizes (Literature), N:232 Egypt (Rural life), E:108; picture on Morse code, M:620 with picture A:523 E:110 Byzantine art (Frescoes and mosaics), Heliograph, H:142 B:697 with picture Iran picture on, 1:331 Radio, Amateur, R:87 Byzantine Empire pictures on, B:700, Islam, I:416 Telegraph, T:101; (The Morse tele-Islamic art, 1:418; (Architecture) 1:419 graph) T:102 with picture Morse, Samuel Finley Breese (Ameri-Klimt, Gustav, K:296 See also Kaaba can inventor, M:618 with pictures Mural, M:703 Mosquitia See Mosquito Coast Cable (The development of cables), Pompeli picture on, P:665 Mosquito (insect), M:633 with pictures C:5 Shell picture on, S:348 See also list of Related Articles Mosaic disease (plant disease), M:623 Communication (In the early 1800's), Cuba (United States control), C:400 Ch:231 with picture; (Famous first with picture Elephantiasis, E:208 words) Cl:234 Potato (Diseases and insect pests), Malaria, M:78 with pictures Morse code, M:620 P:720 Mosquito Coast, M:636 Telegraph (Development of the tele-Mosander, Carl Gustav (German chem-Moss (plant), M:636 with pictures graph), T:102 with picture ist Plant (Sexual reproduction), P-556 Morshead, Major General L. J. [Aus-Rare earth, R:139 Moss, Pat Carisson trailan military leaderl Mosasaur Moss, M:638 Rats of Tobruk, R:144 Dinosaur (Plant and animal life), D:176 Moss, Stirling British motor racing Mort, Thomas Sutcliffe |Australian Prehistoric animal (Other reptiles), businessmanl, M:620 P:746 driver Moss, M:638 Mortal Antipathy, A [book by Holmes] Moscow [Russia], M:624 with pictures Holmes, Oliver Wendell, H:248 and map Moss agate Agate, A:155 with pictures Mortality rate Ivan IV, the Terrible, 1:473 Moss animal See Birth and death rates Kremlin, K:333 with picture Bryozoan, B:605 Mortar, M:620 Russia, R:462 Artillery (Kinds of artillery), A:614 Moss men Russian literature (Muscovite litera-Dolls (Traditional dolls), D:244 Mortar [bricklaying] ture), R:496 Mossadegh, Mohammad Iran (The nationalist movement, 1339 Brick (Bricklaying), B:559; Brick (Stiff Moscow Art Theatre, M:631 process) B:557 Moseley Old Hall [England] Mössbauer effect Mortarboard West Midlands (Places to visit), W:168 Mössbauer, Rudolf Ludwig, M:638 Mössbauer, Rudolf Ludwig German Graduation, G:281 Moseley, Henry Gwyn-Jeffreys British Hat (Why people wear hats), H:76 physicist], M:631 physicistl, M:638 Morte Darthur, Le (book by Malory) Moselle River, M:631 Mossbunker Arthur, King, A:609 Moselle (drink) See Menhaden Mosses from an Old Manse book by Excalibur, E:413 Moselle River, M:631 Galahad, Sir, G:9 Wine (Where wine comes from), Hawthorne, Nathaniel (His stories and Lancelot, Sir, L:42 W:274 Malory, Sir Thomas, M:120 Moses [Biblical figure], M:631 sketches), H:88 Round Table, R:411 Aaron, A:3 Mosul (Iraq), M:638 Moszkowski, Moritz [Polish-German Mortgage [economics], M:621 Bible (Development of the Old Testa-Debt. D:63 ment), B:273 pianistl, M:638 Equity, E:317 Deuteronomy, D:143 Motel, M:638 Mortgage bond Exodus, E:416 Motet Bond (Kinds of bonds), B:444 Jews (The Exodus), 1:113 Classical music (Song), Cl:57 Mortimer, Edmund de (English noble-Law (Early developments in the East), Moth, M:639 with pictures See also list of Related Articles man] (1351-1381), M:622

Ten Commandments, T:138

Cocoon, Ch144

Death's-head moth, D:60

Emperor gum moth, E:231

Emperor moth, E:231

flower (Pollination by butterflies and moths), F:263 with picture

insect (The variety of insects), 1:242; pictures on 1:241, 1:253, 1:255

Prickly pear, P:776

Moth orchid

Orchid picture on, O:490

Mother and Sister of the Artist, The lpainting by Morisotl

Morisot, Berthe, M:607 with picture

"Mother Carey's chickens"

Petrel. P:328

Mother Goose Illustration by Kate Greenaway]

Literature for children picture on,

Mather Goose, M:644

Mother-In-law

Family (Family relationships), F:20

Mother of Canada

Saint Lawrence River, S:35

Mother-of-pearl, M:644 with picture

Nautilus, N:51 Oyster (Shell), O:539

Peari (Cultured pearls), P:234

Shell (How shells are formed), S:343;

Uses of shells) S:348 with picture Mother of Us All, The Imusic by Thomsonl

Thomson, Virgil, T:224

Mother of Us All, The [work by Stein]

Stein, Gertrude, So:312 Mother superior

Convent, C1:318

Mother Teresa

See Teresa, Mother

Mother Tangue, The [book by Hogben]

Hogben, Lancelot, H:242

Mother West Wind Books, The books by Burgess)

Burgess, Thornton Waldo, **B:650**

Mothering Sunday, M:645

Motherland, The Isculpture by Vuchetichl

Sculpture (As monuments and memorials), S:188 with picture

Mother's Day, M:645

Metherwell (Scotland), M:645 with picture

Motherwell, Robert (American painter], M:645

Motion (parliamentary procedure) Parliamentary procedure (Holding meetings), P:195; (Voting on motions) P:197

Motton iphysics], M:646 with picture See also list of Related Articles Coriolis effect, Ch352

Dynamics, D:365

Galileo (Mature scientific career), G:13 Heat (Changing heat into motion),

Newton, Sir Isaac, N:187

Relativity (Special theory of relativity),

Space exploration (The dawn of the space age), So:140

Motion, Perpetual

Perpetual motion machine, P:288 with diagrams

Motion picture

See Film industry

Motion sickness (disorder), M:648

Ear (Disturbances of the organs of balance). E:11

Space exploration (Microgravity), So:135

Motivation, M:648

Child (Motivating the child's behavjour), C:408

Developmental psychology (Cognitive theory), D:145

Learning, L:138

Perception, P:277

Personality (Personality development), P:300

Psychology (Major fields of psychology), P:828

Motivation research (psychology), M:649

Motive [music]

Classical music (The classical period), CEGO

Motive (psychology)

Motivation (Kinds of motives), M:649

Motives of Proteus [work by Rodó] Rodó, José Enrique, R:331

Motmot [bird], M:649 with picture

Bird picture on, B:331

Motor

See Engine; Electric motor; Rocket; Starter

Motor car See Car

Motor caravan

Recreational vehicle, R:170

Motor cortex

Brain (The cerebrum), B:511

Motor generator set [electricity] Electric generator (Uses of DC genera-

tors), E:149

Motor home

See Recreational vehicle

Motor neuron

Human body (The peripheral nervous system), H:359

Nervous system (How the nervous system works), N:81

Motor neuron disease

Amyotrophic lateral sclerosis, A:346

Motor octane number

Petrol (Petrol octane ratings), P:329

Motor racing

See Car racing

Motor scooter

See Motorcycle

Motor skills [physiology] Baby (Growth and development), B:6 with pictures

Motor tic (disorder)

Tourette syndrome, T:311

Motor vehicle engine

Car (How a car works), C:153

Motor vehicle insurance

Insurance, I:274

Motorbike

See Motorcycle

Motorboat racing, M:650 with pictures

Motorcycle, M:651 with picture

Motorcycle, M:651 with pictures

Motorway

Road, R:295

Mott, Lucretia Coffin (American public figurel, M:653 with portrait

Abolition movement (In the United States), A:13

Mott, Sir Nevill [British physicist], M:653

Nobel Prizes (Physics), N:227 Motte and balley

See Castle

Motuans (people), M:653

Mouflon

Sheep (Wild sheep), S:338

Mould (casting)

Cast and casting, C:231 with pictures Fossil (How fossils form), F:371 with

picture iron and steel (Casting iron pigs), 1:391

Pottery (The mould method), P:724 with picture

Mould (fungus), M:653

Antibiotic (History), A:458 Drug (Plants and moulds), D:315

Fermentation, F:54

Food preservation (How food spolis),

F:305

Fungi (Common kinds of fungi), F:486 with pictures

Hay fever, H:89

Mycotoxin, M:654 Penicillin (Forms of penicillin), P:258

with picture

Moulding

Doil (The doll industry today), D:249 Islamic art (Carved and moulded plas-

ter), I:421

Plastics, P:581 Rubber, R:436

Moulting, M:654 with picture

Bird (Feathers), B:349

Crustacean (Growth and development), Cl:466

Grasshopper (Young), G:305

Insect (The bodies of insects), I:248 Spider (Spiderlings), So:226

Moulton (England)

Suffolk (Places to visit), So:389

Moulton, Forest [American astronomer] Earth (The birth of the solar system),

Mound bird, M:654 with picture

Mound builders, M:655

Illinois, I:31

lowa, 1:329 Mount ipalmistryl

See Palmistry

Mount Abu [India] Rajasthan (Places to visit), R:126

Mount Aetna

See Mount Etna

Mount Albert Edward, M:655

Mount Alexander [Australia] Gold rush picture on, G:238 Mount Apo, M:656 **Mount Aragats** Armenia (Land and climate), A:580 **Mount Ararat** See Ararat **Mount Aripo** Trinidad and Tobago (Land and climate), T:406 Mount Athos Greece (Macedonia), G:337 Religious life (The Eastern Orthodox Churches), R:208 Mount Augustus, M:656 Mount Balaneshty [Moldova] Moldova (Land and climate), M:526 Mount Bartle Frere, M:656 Mount Bogong, M:656 Victoria (The Mountains and Tablelands Region), V:359 Mount Bruce, M:656 Mount Buffalo, M:656 Mount Buller, M:656 Mount Carmel, M:656 Mount Cook, M:656 with picture Mount Egmont, M:656 Mount Elbrus (Georgia), M:657 Russia (The European Plain), R:477 Mount Erebus (volcano, Antarctica), M:057 Antarctica picture on, A:438; (West Antarctica) A:440 Mount Etna (Sicily), M:657 with picture Mount Everest, M:657 with pictures Asia picture on, A:644 Himalaya (Peaks), H:206 **Mount Feathertop** Victoria (The Mountains and Tablelands Region), T:359 Mount Fuji, M:659 with picture **Mount Godwin Austen** See K2 Mount Gréboun Niger (Land and climate), N:204 **Mount Hillaby** Barbados (Land and climate), 8:102 Mount Hira (Saudi Arabia) Religion (Islam), R:205 Mount Isa, M:659 Mount Kallas [Tibet] Himalaya (Peaks), H:207 Mount Kanchenjunga, M:659 Himalaya (Peaks), H:207 Mount Kenya, M:660 Mount Kilimanjaro See Kilimanjaro Mount Kinabalu Sabah, S:3 with picture **Mount Korabit** Macedonia (Land and climate), M:9 Mount Kosciusko [Australia], M:660 with picture Australia picture on, A:767 New South Wales (The Mountains and Tableland Region), N:129 Mount Lamington (Papua New Guinea), M:660

Mount Lofty Ranges [Australia], M:660 Mount Logan [Canada], M:660 Mount Makalu [Nepal-Tibet], M:660 Himalaya, M:205 Mount Marcy See Adirondack Mountains Mount McKinley (U.S.A.), M:660 **Mount Meron** Israel (The Judeo-Galilean Highlands), 1:433 Mount Nebo, M:661 Mount Newman, M:661 Mount of Olives, M:661 **Mount Okura** Disaster (Accidents), D:188 Mount Olympus [Greece] Greece (Thessaly), G:337 Olympus, 0:443 Mount Olympus [U.S.A.] Olympic Mountains, 0:443 Mount Ossa, M:661 **Mount Palomar Observatory** See Palomar Observatory **Mount Parnassus** See Parnassus Mount Pelée (volcano) West Indies (Land), W:169 Mount Pelée volcanol Martinique (Land), M:233 Mount Pinatubo, M:661 with picture Mount Pisgah, M:661 Mount Rainler U.S.A.J. M:662 Mount Ruapehu New Zealandl, M:662 **Mount Rushmore National Memorial** [U.S.A.], M:662 with picture **Mount Sage** Virgin Islands, British (Land and climate), V:402 Mount Saint Flias See Saint Elias Mountains Mount Saint Helens (U.S.A.), M:662 with picture **Mount Sinai** See Sinai **Mount Soira** Eritrea (Land and climate), E:319 Mount Soufrière (volcano) West Indies (Land), W:169 **Mount Stromlo Observatory | Aus**traliai, M:663 Mount Tambora Disaster (Natural disasters), D:187 Volcano (table), V:419 Mount Tengri (Kazakhstan) Kazakhstan (Land and climate), K:205 Mount Tom Price [Australia], M:663 Mount Townsend [Australia], M:663 **Mount Triglay** Slovenia (Land and climate), S:493 Mount Vernon [U.S.A.], M:663 with pic-

Mount Vesuvius

See Vesuvius

M:664

Mount Wilson Observatory U.S.A.I,

Mount Woodroffe [Australia], Maga South Australia (The Central Desert Area), So:110 Mount Zeil (Australia), M:664 Mount Zion lerusalem (West Jerusalem), **j.as** Mountain, M:665 with pictures See also list of Related Articles Australia, A:763 Climate (Differences in the surface of the land), Ci:81 Weather (Geographical features). W:115 with diagram Mountain ash, M:670 Eucalypts picture on, E:350 Mountain avens, M:671 Mountain beaver (rodent), M:671 Mountain blke Bicycle, B:280 with picture Mountain Blue Butterfly picture on, B:685 Mountain chicken [food] Dominica (Food), D:256 Mountain cicada linsecti Cicada, Ci:1 Mountain climbing See Mountaineering Mountain dulcimer Dulcimer, D:343 Mountain forest Cashmere goat, C:227 with picture Chamois, C:340 with picture Forest, F:349 Ibex, I:2 Mountain gorilla Fossey, Dian, F:367 with picture Gorilla (The gorilla's home), G259 Mountain hemlock Hemiock [tree], H:144 Mountain Lapps [people] Lapland, L:63 with picture Mountain laurel, M:671 Mountain lion, M:671 with pictures Animal (Destruction of habitati, A412 Mountain magnolla Magnolia, M:60 Mountain nestor Kea, K:207 Mountain pass, M:672 Mountain sheep Bighorn, B:286 with picture Mountain sickness Altitude sickness, A:289 Mountaineering, M:672 Alps (Climbing the Alps), A:267 Hiking, **H:202** United Kingdom picture on, U.S. Mountainous Plateau Mountains of California, The book by American literature (Nonfiction with Mountbatten-Windsor (English highter) Mount Victoria [Papua New Guineal, Windsor [family], W:271 Mountbatten, Louis (British statesmail Mount Wellington [Australia], M:664 Mount Wilhelm [Papua New Guinea], M:673 with picture

Philip, Prince, P:367

M:654

World War II (The China-Burma-India [sherwood] Joint, J:136 with pictures Movable type [printing] theatre), W:399 Book (The development of printed Mountbatten, Philip books), B:455 **Powvs** See Philip, Prince Communication (The start of printing), Mounted police See Royal Canadian Mounted Police Cl:230 with picture Gutenberg, Johannes, G:432 Mountevans, Lord (British explorer), Printing (The invention of movable Mountolive [book by Durrell] type), P:786 Beeton Type (History), T:484 Durrell, Lawrence, D:356 Moveable Feast, A (work by Heming-Newry and Mourne, N:179 Hemingway, Ernest (Later years), H:143 Mourne Mountains (Northern Ireland), Movement Concerto, Cl:272 Northern Ireland (Surface features), Design (Rhythm and movement), D:134 N:273 with map Ear (The response to movement), E:11 Mourner with diagram funeral customs, F:484 Sculpture, S:191 with picture Mourning Movement for Democracy (MPD) Funeral customs, F:484 Cape Verde (Government), C:141 Mourning Becomes Electra | play by Movements for Piano and Orchestra Naturalism (Naturalism in drama), N:48 (ballet) D'Amboise, lacques, D:17 O'Neill, Eugene Gladstone, O:452 Moving Image, The work by Wrightl Mourning dove [bird], M:674 with pic-Wright, Judith, W:418 Ms. [magazine] Movie [Northern Ireland], M:678 Dove picture on, D:274 Moyola, Lord Iprime minister of North-Mouse, M:674 with pictures ern Ireland), M:678 See also Jumping mouse Skull, picture on, S:475 Mozambique, M:678 with pictures and Mouse lelectronic devicel M:743 Communism (Communist influence in Computer (Creating and displaying other areas), Cl:242 documents and pictures), Cl:255; S:110 Flag picture on, F:201 (Terminals) Ci:258 with diagram Mouse-tailed bat Maputo, M:194 Portugal (Empire and wealth), P:705 Bat (Kinds of bats), B:148 Mouse Tower (Germany), M:677 Portuguese language, P:708 Mousehold Heath near Norwich Mozart on His Journey to Prague **[painting by Crome]** [book by Mörike] Mörike, Eduard, M:607 Crome, John picture on, Cl:450 Mozart, Wolfgang Amadeus (Austrian Mousorgski, Modest Dextrin, D:150 See Mussorgsky, Modest composer), M:681 with picture Moussaka [food] Beethoven, Ludwig van (Beethoven's Greece (Food and drink), G:335 life), B:194 Moustached bat Classical music (The classical period), drome Bat (Kinds of bats), B:148 Ci:60 with picture Mouth, M:677 with diagram Ciementi, Muzio, Ci:74 Mucous colitis See also list of Related Articles Concerto, Cl:272 Colitis, Ci:163 Bee, B:185 Haydn, Joseph, H:90 Human body (The mouth, pesophagus, Opera, O:464; (Don Giovanni) O:469 and stomach), H:334 with picture Leprosy, L:182 Opera (Magic Flute, The), 0:471 with Palate, P:101 with diagrams Reproduction, Human (The structures Mouth, M:677 Opera (Marriage of Figaro, The), 0:471 of the mouth), R:229 Mouth organ Nose, N:303 Overture, 0:526 See Harmonica Serenade, S:269 Mucoviscidosis Mouth-to-mouth resuscitation Symphony, So:516 First aid (Giving artificial respiration), Mozzetta F:144 with pictures Pope (Titles, clothing, and symbols), Mouthpart (zoology) Eye, E:435 Butterfly, B:686 Mphahlele, Ezekiel (South African Insect, I:248 with pictures Movable coll South Africa (Arts), So:61 Wattrneter, W:102 Mr. justice Raffles (book by Hornung) Movable feast [religion] M:341 Hornung, E. W., H:283 Calendar (The church calendar), C:34 Mr. Midshipman Easy book by Mar-

Marryat, Frederick, M:220

Mr. Norris Changes Trains book by

Movable joint

H:351

Human body (The skeletal system),

Isherwood, Christopher, I:412 Mr. Weston's Good Wine book by Powys, Theodore Francis, P:733 Mr. Wilson's War [novel by Dos Passos] Dos Passos, John, D:271 Mrs. Beeton's Cookery Book book by Beeton, Mrs., B:200 with picture Mrs. Dalloway book by Woolf Woolf, Virginia, W:313 Mrs. Macquarie's Chair (Australia) Australia, History of picture on, A:805 Mrs. Martin's Man (work by Ervine) Ervine, St. John, E:323 Mrs. Miniver [book by Hilton] Hilton, James, H:205 Mrs. Miniver [film] Film industry (Best picture), F:96 Wyler, William, W:426 Mrs. Raynes [painting by Steer] Steer, Philip Wilson, So:311 See Multiple scierosis Steinem, Gloria, So:313 Mu-neutrino (atomic particle) Neutrino, N:105 Muawiya (Muslim ruler) Muslims (The Umayyad callphs), Saudi Arabia (The decline of Arabia), Mubarak, Hosni (Egyptian political leaderl, M:682 with portrait Egypt (Egypt today), E:121 Much Ado About Nothing | play by Shakespearel Shakespeare, William, S:315 Mucilage, M:682 Gum arabic, G:427 Muckrakers (group of writers), M:682 Mucocutaneous lymph node syn-Kawasaki disease, K:203 Mucous membrane Disease (Barriers), D:195 with diagram Membrane, M:341 Nosebleed, N:304 with picture See Cystic fibrosis Mucus [physiology], M:683 Disease (Barriers), D:195 with diagram Human body (The air passages), H:355 Lung (Other jobs of the lungs), L:415 Membrane (Mucous membranes), Mucus (zoology) Fish (External anatomy), F:167

Mud Dauber

Wasp (Nests), W:64

Shiites, S:359

Sunnis, So:426

Empirel, M:687

Muhammad II (sultan of the Ottoman

Cuba (Population and ancestry) (but Ottoman Empire picture on, O:521 Mud hen Haiti (Population and ancestry, Hu Cont. Ch338 Muhammad, Elijah [American religious Latin America (People of mixed ances leaderl. M:688 with portrait Mud pickerel Pickerel, P:487 Muhammad All (American boxer) try), 1:78 Toussaint L'Ouverture, Trata Mudpuppy (amphibian), M:683 with pic-See All. Muhammad Muhammad Ali Turkish military Mulatto Iplay by Hughesi Hughes, Langston, H:342 Mudras leaderl M:688 Mulberry, M:689 with picture Alexandria (History), A:245 Dancing (Oriental dancing), D:24 Egypt (Muhammad Ali and moderniza-Silk (Discovery of silk), S:425 Mueller, Baron von [German explorer] tion). E:116 Mulch, M:689 Giles, Ernest, G:158 Muhammad bin Tughlug Weed (Weed control), W:131 Mueller, Ferdinand von [German bota-See Tughlug, Muhammad ibn Mulching Forrest (Exploration), F:362 Muhammad Reza Pahlavi Gardening, G:40 Muldoon, Robert David | New Zealand See Mohammad Reza Pahlavi Mueller, Paul Hermann political leader], M:689 with portrait See Müller, Paul Hermann Muhammadan art New Zealand, History of (New Zealand See Islamic art Muezzin ireligioni since 1972), N:175 Cairo, C:17 Muhammadanism Mule lanimall, M:689 with pictures Islam (The mosque), 8:416 See Islam: Muslims Donkey, D:266 Minaret, M:479 Muharram (month) Calendar (The Islamic calendar), C:35 Mule ilocomotivel Muffler Muhlenberg, Frederick Augustus Panama Canal (The Gatun Locks) P122 See Silencer Conrad (American political leader). Mule imachinel Mugabe, Robert Gabriel (Zimbabwe Spinning, So:230 political leader). M:683 with portrait MIBBB Zimbabwe, Z:493; (History) Z:497 Muhlenberg, Henry Melchior (Ameri-Mule deer, M:690 Mulga [tree], M:691 **Mugal Empire** can religious leader). M:688 See Mughal Empire Muhlenberg, John Peter Gabriel Mull lislandi. M:691 Mullah Mughal Empire, M:683 American general), M:688 Afghanistan (Religion), A:113 Assam (History), A:670 **Muhienberg, William Augustus** Islam (The mosque), I:416 [American religious leader], M:688 Aurangzeb, A:747 Mullein [plant], M:691 with picture Babar, B:2 Muir, Edwin (Scottish poet), M:688 Muliens, Catherine H. Indian writer Scottish literature (After 1900), \$:177 Bangladesh, B:88 India, Literature of (The birth of puttor Hyderabad, H:394 Muir, John (American explorer). M:688 alism), [:128 India, Art of (Islamic architecture), 1:87; American literature (Nonfiction writ-Mullens, Priscilla (Mughal painting) 1:88 with picers). A:316 Alden, A:240 tures: (Art in craftwork) 1:90 Mulaheddin [Afghan political organiza-Müller, Erwin W. [German physicist India, History of (Akbar the Great). Ion microscope, 1:326 1:109 Afghanistan (Afghanistan today), A:115 Mütler, Friedrich Max German-bom India, History of (Foundation of the United Nations (The Soviet invasion of British language scholari Mughal Empire), 1:109 Afghanistan), U:178 Mythology (Müller's theory), M:764 India, History of (Foundations of the Mujahedin-e Khalq (People's Holy War-Religion (The origin of religion), 8:200 Mughal Empire), k:109 with picriors Müller, K. Alex Swiss physicist Iran (Politics), I:334 Superconductivity, So:428 India, History of (Mughal government), Mujib, Sheik Mutler, Hermann Joseph American k:109 See Mujibur Rahman geneticisti, M:691 India, History of (The decline of the Mujibur Rahman (Bangladeshi political Nobel Prizes (Physiology or medicine) Mughal Empire), I:111 with picleaderl, M:688 N:231 Bangladesh (East Pakistan), B:88: (The Muller, Max (German-bern scholar) India, History of (The empire after Aunew nation) B:89 M:691 Müller, Paul Hermann (Swiss chemist rangzeb), £111 Mukden Maharashtra (Rise of the Marathas). See Shenvang M:691 M:67 Mukden, Battle of Mullet [fish], M:691 Muslims (Colonialism), M:744 Russo-Japanese War (Last battles), Mulligan, Gerry (American jazz must Pakistan (The Mughal Empire), P:98 Shah Jahan, S:296 Mukherjee, Meera (Indian artist) cian Jazz (Cool jazz), J:77 Mulliken, Robert Sanderson lamen Mugwort India, Art of (The colonial and modern Wormwood, W:411 periods), £89 can chemisti, M:692 Muhammad [prophet], M:684 Mukhtar lofficiall Mulloway See also list of Related Articles. Bahrain, B:31 Fish picture on, F:159 Arabs (The rise and spread of Islam), Mukoshima (islands) Mulroney, Brian (Canadian statesman) A:492 Bonin Islands, B:449 Cornelian, Ch357 Mukteswar temple M:692 with picture Canada, History of (Recent develop Flag picture on, F:210 Orlssa picture on, 0:500 Jerusalem, J:87 Muktibodh [Indian writer] ments), C:106 Medina, M:321 India, Literature of (India after inde-Multi-platinum record Recording industry (Recording Indus Saudi Arabia (The rise of Islam), S:110 pendence), l:129

Mulatto [people], M:689

Bahamas (People), B:29

Brazil (Ancestry), B:532

Colombia (Ancestry), Ci:169

try awards), R:168

Multiconductor cable

Cable, C:4

Multiculturalism Culture, Ci:492

Multifilament thread

Thread (Making thread from manufac-

tured fibres). T:229

Multifilament varn

Textile (Making the yarn), T:172

Multilateral treaty

International relations (Freaties), 1:294

Multimedia, M:692

Multimedia encyclopedia lelectronic

reference work)

Encyclopedia (New types of encycloped(a), E:237

Multimodality therapy

Cancer, C:122

Multinational corporation, M:693 international relations, 1:293

Multiple arch dam

Dam (Kinds of dams), D:12

Multiple birth, M:693 with pictures Reproduction, Human, R:227

Multiple completion well

Petroleum (Completing the well), P:347

Multiple fracture

Fracture, F:390 with diagram

Multiple Independently Targetable Reentry Vehicle (MIRV)

Guided missile diagram on, G:408

Multiple Mirror Telescope

Astronomy picture on. A:700

Multiple peril insurance

Insurance (Homeowners' Insurance). 1:274

Multiple scienosis, M:694

Brain (Other brain disorders), B:518 Nervous system (Disorders of the ner-Vous system), N:85

Multiple-Factor Analysis (book by Thurstonel

Thurstone, Louis Leon, T:234

Multiplexing Frequency modulation, F:456

Multiplication (mathematics), M:694 with diagrams

Algebra, A:253, A:254, A:256 Arithmetic, A:571 with picture

Division (Checking by multiplication), D:213

Fraction, F:387 Logarithm, L:361

Numeration systems (Binary arithmetic), N:346; (Decimal arithmetic) N:346 (Hexadecimal arithmetic) N:347

Multiplying gear

Gear (How gears work), G:67 Multiplying reel

Fishing (Fishing equipment), F:183 Multipurpose dry chemical extin-

guisher Fire extinguisher (Dry chemical extin-

guisher), F:135 Multipurpose ship

Ship, S:380 **Multistage rocket**

Rocket, R:317 with diagram Mumbo Jumbo (book by Reed) American literature (Fiction and other prose). A:320

Mumford, Lewis American author). M:699

Mummers factors], Ma699 with picture Mummification

Fossil (How fossils form), F:371 Funeral customs (History), F:485

Muramy, M:699 Mummy (archaeology), M:699 with pic-

Egypt, Ancient (The afterlife), E:122

Embalming, E:225

Pyramids (Egyptian pyramids), P:872

Mummy, The [film] Karloff, Boris, K:195

Mummy bag

Camping (Sleeping bags), C:65

Mumps (disease), M:700 Disease (table), D:190

Munch, Edvard [Norwegian artist], M:700 with picture

Expressionism (Expressionist painting),

Norway (Arts), N:296 with picture Painting (Expressionism). P:80 Strindberg, August picture on, So:357

Munchausen, Baron (literary figure), MCTOO

Mung bean

See Bean

Munao

Kentigern, Saint, K:222 Munich Agreement, M:702 Munich, M:701 with pictures

Bavaria, B:160 with maps

Municipal solid waste Waste disposal, W:65

Munjong Korean kingl Seoul (History), S:260

Munnings, Sir Alfred (British artist), M:702

Munro, Hector Hugh (British writer), M:702

Munro, Nell (Scottish author) Scottish literature (1800-1900), S:176

Munrow, David (British musician). M:702

Munsell Colour System Colour, Cl:199; pictures on Cl:200

Munsell, Albert H. American portrait

Colour (The Munsell Colour System), Cl:199

Munster [Ireland], M:702 with map Arms picture on, A:587

Muntz metal

Brass, B:524

Muon (atomic particle), M:703 Anderson, Carl David, A:353 Cosmic rays (Secondary cosmic rays),

Ch370

Lepton, L:184 Meson, Ma370

Neutrino, N:105

Muonio River Finland (Rivers), F:119

Muqaddama book by ibn Khaldunl Ibn Khaldun, 1:3

Mugarnas vault

Islamic art (Other buildings), 1:419 Mural larti. M:703 with pictures

Mosaic. M:622

Muragaki Shikibu [Japanese author]. M-705

lapanese literature (The Heian period).

Murat, Joachim French cavalry commander). M:705

Murchison (Australia), M:705 Murchison Falls | Ugandal

Baker, Sir Samuel, B:33

Nile River picture on, N:219

Murchison River Murchison, M:705

Murder, M:705

Capital punishment, C:144 Draco, D:278 Futhanasia, E:401

Homicide, H:256

Manslaughter, M:165

Murder in the Cathedral (work by Elioti

Fliot. T. S., E:211

"Murders in the Rue Morgue, The"

Istory by Poel

American literature (The romance). A:314 Poe, Edgar Allan, P:608: (Poe's work)

PIGOS

Murdoch, Dame Iris [British novelist], M:705 Murdoch, Rupert (Australian-born pub-

lisherl, M:706

Murdoch, Sir Walter (Australian writerl. M:706

Murdock, William (British engineer), M:706

Gas (First uses of manufactured gas), C:56

Illuminating gas, £32 Lamp (Gas lamps), L:36

Muriatic acid

See Hydrochioric acid Murilio, Bartolomé Esteban (Spanish

painterl, M:706 with picture

Murine opossum Opossum, 0:477

Murmansk [Russla], M:706

Murphy, Audie [American soldier],

M:707 with portrait Murphy, Emily Gowan (Canadian social

reformer], M:707 Murphy, "Torpedo" Bill New Zealand

boxer Boxing (World titles), B:496

Murray, Gilbert [Australian scholar], M:707

Murray, James [British soldier], M:707 Canada, History of (The Quebec Act), C:99

Murray, Lleutenant John [Australian settler)

Port Phillip Bay, P:694 Victoria (History), V:364 Murray, Leslie Allan, M:707

Murray, Lionel See Murray, Lord

Human body (The muscular system),

H:351; (Trans on three nsional pic-

mitting Information), L.70 Murray, Lord (British trade-unionist). ture) H:353 M:707 Insect (Muscular system), k:251 Opera, 0:456 Murray, Sir James (Scottish philolo-Posture, P:717 Passion music. P:210 Popular music, P:682 gistl. M:707 Space exploration (Microgravity). Murray, Sir John (British naturalist). So:135 Ragtime., R:96 M:707 Tissue (Animal tissue), T:263 Rock music, R:311 Murray cod, M:708 Tonque, T:295 Romanticism (Romanticism in much Murray Greys (cattle), M:708 Muscle sense, M:716 Murray River [Australia], M:708 with Muscovite [mineral] Sound (Musical sounds), So:47 Music for Children (book by Orff) Mica. M:432 See also list of Related Articles Mineral picture on, M:485 Orff, Carl, 0:493 Music for the Theatre imusic by Cop-Australia, History of (Land exploration), Muscovites [people] A-802 Moscow (People), M:625 landi Muscular atrophy disease Copland, Aaron, Ch340 Australia (Rivers), A:763 Muscle (Disorders of the muscles). Music half lentertainment, M:737 with Hume, Hamilton, H:367 with map South Australia (The Lower Murray picture Basin), So:108: (Lakes, rivers and Muscular Christianity Music Room, The painting by Steet wells) So:110: picture on So:112 Kingsley, Charles, K:282 Steer, Philip Wilson, So:311 Victoria (Land), V:359 with picture: Muscular dystrophy, M:716 Musica Transalpina Isony collection (The Lower Murray Basin Region) Muscle (Disorders of the muscles). Madrid (History), M:38 V-360 Musical box. M:738 with picture **Murray River Scheme** Paralysis (Paralysis of muscular origin). Musical comedy, M:738 with picture New South Wales (Economy), N:131 P1169 See also list of Related Articles Murray, Les A. [Australian writer] Muscular system Musical instrument Country music (Characteristics) Cass Australia, Literature of (Modern short Human body, H:351; (Trans on three stories). A:832 nsional picture) H:353 Music (Musical instruments), M:727 Murre (bird), M:710 Insect. I:251 with pictures Murrow, Edward R. American broad-Musculoskeletal system Orchestra, O:486 with pictures caster], M:711 with portrait Osteopathic medicine, 0:513 Reed. R:177 Murrumbidgee [Australia], M:711 with Suzuki method. So:452 Museo Municipal (Madrid) pictures Musical notation Madrid (History) picture on, M:38 Music, M:731 with diagrams Murrumbidgee Irrigation Area (MIA) Muses [Greek and Roman mythology], Murrumbidgee, M:711 Musical Offering music M:717 Bach, Johann Sebastian (The Fifth Pe **Murrumbidgee Irrigation Scheme** Mythology (Greek divinities), M:757; New South Wales (Economy), N:131 mod), 8:17 picture on M:758 Murthy, U. R. Anantha (Indian writer) Museum, M:717 with pictures Canon, C:131 India, Literature of (Contemporary See also list of Related Articles Musical terms Music table on, M:727 trends), 1:129 Doll (Dolls in museums), D:249 Musa al-Kazim ireligious leaderl Louvre., L:404 Musician Orchestra, 0:486 with picture Ismaili Muslims, 1:425 Museum of Modern Art New York Musil, Robert (Austrian author), M749 Musa Hitam, Datuk (Malaysian political Cityl, M:721 leaderl, M:713 Adams, Ansel, A:30 Musk. M:741 Deer (Asian and European deer), Dag Musaka [food] Museum of Science and Industry Bosnia-Herzegovina (People), B:473 Musk deer, M:741 Manchester (Places to visit), M:144 Musashi Peccary, P:240 Museveni, Yoweri (Ugandan president), Battleship (The modern battleship). Skunk, S:475 M:721 Weasel, W:109 D:156 Mushet, Robert Forester |British Musk deer, M:741 Muscadine grape metallurgistl. M:721 Musk ox, M:741 Grape (North American grapes), G:297 Iron and steel (The birth of modern Muskellunge (fish), M:741 with pidure Muscat and Oman steelmaking), £401 Musket (weapon), M:741 See Oman Mushroom, M:721 with pictures Army (The rise of modern armies), Muscat (Oman), M:713 Fungi (Common kinds of fungi), F:486 Oman. 0:448 A:594 Mushroom coral Whitney, Eli, W:240 Muscat of Alexandria (grape) Coral picture on, Ci:349 Raisin (Varieties of raisins), R:121 Muskmelon, M:742 Music, M:725 with pictures Meion (Types of meion), M:338 Muscle, M:713 See also list of Related Articles. For bi-Muskrat (animal), M:742 See also list of Related Articles in the ographies of people in the field of Fur picture on, F:489 Muscle article music see the lists of Related Arti-Arm, A:576 with diagram Trapping,, T:370 cles at the end of Classical music; Musky rat kangaroo Bird, B:351 Hymn; Jazz; Musical comedy; Kangaroo, K:186 Convulsions, Cl:325 Opera; Piano; Popular music; Vio-Muslim League Cramp, Ci:414 Bangladesh (British India), 8:88 Curare, Ci:500 Baroque (Baroque music), B:117 Muslims, M:742 Fish, F:168 Classical music, Ci:55 with pictures Algeria (Religion), A:263 Foot, F:316 with diagram Asia (Religions), A:625, A:630 Drama (Other parts of drama), D:285 Hair (Glands and muscles), H:11 Impressionism (Music, literature, and Azerbaijan (People), A:896 Baghdad (People), B:26 with picture Heart (Muscular walls), H:101 sculpture), 1:47

Jazz, J:73

Laser (Recording, storing, and trans-

Bangladesh (Religion), B:85

Ballistics (Interior ballistics), B:59

Nationalism (Different forms of nation-

World War II (In Italy), W:380; picture

on W:381; (The invasion of Italy)

alism), N:44

W:392

Pound, Ezra Loomis, P:728

Rome (The 1900's), R:370

Mussorgsky, Modest [Russian composerl. M:746 Opera (Boris Godunov), 0:467 Rimsky-Korsakov, Nikolai, R:278 Must Wine (Preparing the juice), W:274 Mustafa Kemai Pasha See Atatürk, Kemal Mustang [horse], M:746 Mustanas. The book by Dobie Dobie, J. Frank, D:219 Mustapha bin Datu Harun [Malay politicianl. M:746 Mustard [plant], M:746 with picture Mustard gas Chemical-biological-radiological warfare (Chemical), C:364 Mustering, M:747 Musth Elephant (Musth), E:207 Mutagen Heredity (Mutation), H:168 Mutation, M:747 See also list of Related Articles Evolution (Causes of evolutionary change), E:407 Heredity, H:168 Phenylketonuria (PKU), P:361 Races, Human, R:48 Mutiny, M:747 Naval mutinies, N:51 Mutiny on the Bounty Bligh, William, B:387 Mutiny on the Bounty book by Nordhoff and Hall) Nordhoff and Hall, N:239 Mutsuhito lemperor of Japani, M:747 lapanese print (The decline of printmaking), J:65 Tokyo (Western influence), T:287 Mutton (meat), M:747 Mutton bird, M:747 with picture **Mutton chops** Beard, B:172 Mutual benefit association Insurance (Types of insurance company), 1:275 Mutual Cooperation and Security, Treaty of [1960] lapan (Postwar boom), 1:60 Minual Inductance Inductance, I:205 Mutual insurance company Insurance (Types of insurance company), 1:275 Mutualism Life, L:247 Plant (How plants protect themselves), P:560 Symbiosis, So:515 Muumuu (clothing) Pacific Islands (Clothing), P:7

cal leader

Muzzle velocity

Zimbabwe (History), Z:497

Artiflery (Parts of a gun), A:613

Rifle (The parts of a rifle), R:274

Police (Soviet Union). P:642 Mwanamutapa Empire Africa (Eastern, central, and southern kingdoms). A:150 Zimbabwe (History), 7:496 My Antonia book by Catheri American literature (Realist fiction). My Apprenticeship [book by Webbs] Webb. Sidney and Beatrice, W:127 My Rondage and My Freedom book by Douglassi Douglass, Frederick, D:273 My Brilliant Career [novel by Franklin] Australia, Literature of (Novels), A:832 My Brother lack [novel by Johnston] Australia, Literature of (Modern novels A:832 My Brother Jack (book by Johnston) Johnston, George Henry, 1:135 My Cousin Rachel book by du Maurier) Du Maurier (Daphne du Maurier), D:345 My Fair Lady [film] Cukor, George, Cl:488 Film industry (Best picture), F:96 My Fair Lady [musical] Drury Lane, D:326 Hart, Moss. H:69 Musical comedy (The modern musical), M:740 Pygmalion, P:870 Shaw, George Bernard (Mature period), S:336 My First Picture Book (book by Weisgardl Weisgard, Leonard, W:142 My Garden of Memory book by Wig-Wingin, Kate Douglas, W:245 My Left Foot book by Brown Brown, Christy, B:592 Handicapped, H:44 My Life and Hard Times work by Thurberl Thurber, james, T:233 My Life and Times (book by Macken-Mackenzle, Sir Compton, M:19 My Literary Passions ibook by Howells Howells, William Dean, H:335 My Little Chickadee (film) Fields, W. C., F:71 with picture West, Mae, W:155 My Love Must Wait book by Hilli Hill, Ernestine, H:203 "My Mammy" (song) Jolson, Al, J:138 My Many Years (book by Rubinstein) Muzorewa, Abel T. Zimbabwe politi-Rubinstein, Arthur, R:441 Mv Michael [book by Oz] Hebrew language and literature (Hebrew literature today), H:131 My Musical Life book by Rimsky-

Korsakovl

My Religion book by Keller Keller, Helen Adams (She helps others), K:212

My Several Worlds [book by Buck] Buck, Pearl S., B:608

My Story [book by Caine] Caine, Sir Hall, C:15

My Wife Ethel (book by Runyon) Runyon, Damon, R:459

My Young Years (book by Rubinstein) Rubinstein, Arthur, R:441

Myaigia

Rheumatism, R:251

Myalgic encephalomyelitis (ME), M:748

Myall Creek murders, M:748 Myanmar, Union of See Burma

Myasthenia gravis [disease], M:748 Thymus, T:234

Mycellum

Fungi (Parts of a fungus), F:485 Mushroom, M:721; (Parts of a mushroom) M:721 with diagram; (Fairy rings) F:722 with picture

Mycenae lancient Greecel, M:748 Aegean civilization (The Mycenaean culture). A:67

Architecture (Mycenaean architecture), A:521

Galley, G:16

Greece, Ancient (History), G:352 Mythology (Greek mythology), M:756 Ship (Minoan and Mycenaean ships), S:364

World, History of the (The Greeks), W:338

Mycobacterium leprae [bacterium] Leprosy (Causes), L:183

Mycobacterium tuberculosis

Bacteriology (History), B:23 Tuberculosis (How tuberculosis affects the body), T:432

Mycology Fungl, F:485

Mycorrhiza Fungi (How a fungus lives), F:485 Mushroom (How a mushroom obtains

food), M:722 Plant (Roots), P:553 Tree (Roots), T:378

Mycotoxin [chemical], M:748 Myelin

Brain (Brain cells), B:512 Multiple sclerosis, M:694 Nervous system (Parts of a neuron), N:82

Myelitis, M:749

Myeloid leukaemia Leukaemia (Acute leukaemia), L:195

Myer Music Bowl (Australia), M:749 Music picture on, M:735

Mylasis

Bot fly, B:478 Mynah (bird), M:749 with picture

Bird picture on, B:325 Myobatrachid frog Frog. F:468

Myocardial Infarction See Coronary thrombosis

Myocarditis, M:749

Diphtheria (Cause, symptoms, and complications), D:184 Heart (Inflammatory heart disease),

H:109

Myocardium [anatomy] Heart (Muscular wails), H:101

Myoelectricity Artificial limb, A:612

Myopathy

Muscle (Disorders of the muscles), M:716

Myopla, M:749 Myosin

> Heredity (Genes and proteins), H:170 Muscle, M:714

Myosin cross-bridge

Muscle (How muscles contract), M:715 Myotonic muscular dystrophy

Muscular dystrophy, M:717

Myrdai, Alva Reimer | Swedish diplomat]. M:749

Myrdal, Gunnar [Swedish sociologist], MC749

Nobel Prizes (Peace), N:235

Myringotomy

Surgery (Some common surgical operations), So:438

Myroxylon pereirae Balsam, B:67

Myroxylon tolulferum

Balsam, B:67 Myrrh, M:750

Myrrour of the World, The lillustrated book

Caxton, William, C:288

Myrtle, M:750

Myself When Young book by du Maurierl

Du Maurier (Daphne du Maurier),

Myself with Others |book by Fuentes| Fuentes, Carlos, F:480

Mysteries (religion), M:750 Mysteries (book by Hamsun)

Hamsun, Knut, 14:37

Mystery of Edwin Droad, The (book by Dickensl

Detective story (History), D:136 Dickens, Charles (The second phase),

Mystery play, M:750

Drama (Medieval drama), D:288 French literature (Early drama), F:445 Miracle play, M:506

Morality play, M:601 Mystery story

See Detective story

R:198

Mysticism [religion], M:750 Myth

Folklore (Kinds of folklore), F:288 Mythology, M:751 with pictures Religion (The use of sacred stories), Myth of Sisyphus, The work by Camus]

Camus, Albert, C:69

Myth of the Twentieth Century book by Rosenbergl Rosenberg, Alfred, R:401

Mythological cycle Irish literature (The Golden Age),

1:381 Mythology, M:760

Mythology, M:751 with pictures See also list of Related Articles Moon, M:594

Painting, P:35

Sun, So:412 with picture Myths legends and epics

Literature for children, L:320 Myxoedema

Thyroid gland (Underactive thyroid), T:235

Myxomatosis, M:766

Conservation (Australasia), Ch303 Rabbit (The European rabbit), R:38 Mzillkazi [founder of Ndebele nation],

M:766 South Africa, History of (Turmoll Inthe interior), So:78

Transvaal (History), T:364 Mzlikazi (South African chieftain)

Gauteng (History), G:65

N (letter), N:1 with picture N (symbol) Newton, N:187

N by E [book by Kent] Kent, Rockwell, K:222 Nabataeans [people]

Jordan (History), J:144 Nabiyev, Rakhman

Tajikistan (History), T:15 Nabob, The work by Daudet

Daudet, Alphonse, D:42 Nabokov, Vladimir Russian-bom

thor], N:2 American literature (Fiction and other

prose), A:320 Nabopolassar (king of Babylon)

Babylon (The New Babylonian Empire) B:12

Chaldea, C:337 Nebuchadnezzar II, N:64

Nacelle Aeroplane (The wing), A:89

Nacre

Mother-of-pearl, M:644

Nader, Ralph (American lawyer), N2 Nædi

See Fiji

Nadir (astronomy), N:2 Nadir Khan [king of Afghanistan] Afghanistan (Independence), Aits Nadir Shah Ishah of Irani

Napoleon III (Early life), N:23

Naranjilla

Naracoorte Caves [Australia], N:24

See Nanjing

Goat, G:221

Nanny goat

Nannygai

Nalpaul, V. S. [West Indian writer], N:6

Nalm (Scotland), N:7 with picture

with portrait

Charles I, C:350

Ci:451

Cromwell, Oliver (Rise to power),

Nash, Beau (English dandy), N:26 See also list of Related Articles Nightshade, N:218 Nash, Charles William American busi-Australian national anthem, A:833 Narasimhavarman I, N:24 Narayan, R. K. [Indian novelist], N:24 nessmanl, N:26 National Association for the Advancement of Colored People Narcissus [Greek mythology], N:24 Nash, James Australian prospectorl, (NAACP) Narcissus (plant), N:24 with picture N:26 Nash, John [English architect], N:26 Du Bois, W. E. B., D:336 Daffodil, D:3 with picture Poisonous plant (Some poisonous Nash, Ogden [American writer], N:26 Wilkins, Roy, W:253 plants), P:621 with portrait National Audubon Society Audubon Society, National, A:742 Narcolepsy [disease], N:25 Nash, Paul (British painter), N:27 National Australian Football Council Nash, Thomas (English writer), N:27 Amphetamine, A:339 Nashville (U.S.A.), N:27 (NAFC) Narcotic, N:25 See also list of Related Articles Nasmyth, James (Scottish engineer), Australian Rules football (Associa-Intoxication, I:299 tions), A:853 Invention (The Industrial Revolution), National Congress of American indi-Spikenard, So:228 Nassau (Bahamas), N:27 with picture Indian, American (The Indian Reom-Narration (kinds of discourse) Bahamas, B:29 with picture and map nization Act of 1934), I:166 Literature, L:311 Novel, N:311 Nassau grouper **National Convention** French Revolution, F:453 Narrative of the Expedition of an Fish picture on, F:162 American Squadron . . . [book by Nasser, Gamal Abdel [Egyptian politi-National costume cal leader), N:28 Ciothing (Traditional costumes), Class Perry, Matthew Calbraith, P:290 Egypt (Republic), E:117 with pictures Narrative of the Life of Frederick Israel (The Six-Day War), I:439 **National Covenant** Scotland, History of (The combined Middle East (Continuing conflict), Douglass (book by Douglass) American literature (Nonfiction prose), kingdoms), S:172 National Cricket Association (NCA) Suez Canal (History), So:386 Cricket (Administration), Cl:429 Douglass, Frederick, D:273 United Arab Republic, U:41 National Crime Information Center Narrative poems [poetry] Nasser, Lake Literature (Forms of Literature), See Lake Nasser (NCIC) Police (United States), P:642 L:313 Nast, Thomas (American political car-**Narrative poetry** toonisti, N:28 National culture Culture (The boundaries of culture), French literature, F:445 Nasturtium, N:28 with picture Cl:491 Poetry, P:610 Natal [South Africa], N:28 with pictures National debt, N:31 Narrow-angle glaucoma and map National Diet Building Eye (Glaucoma), E:441 South Africa (Provincial government), Tokyo, T:284 Narrow boat National Eisteddfod Barge, B:109 with picture South Africa, History of (Settlement of Eisteddfods, E:135 Narrow goods Natall, So:79 Welsh literature (Later literature) Textile (Making the fabric), T:172 Natchez [tribe] Narrow-mouthed toad W:151 Indian. American (Indians of the National Exibition Centre Solihul, & Frog. F:468 Southeast), I:153 Narrow-winged katydid Nathaneal gland) Solihull, So:30 picture on Grasshopper picture on, G:305 See Bartholomew, Saint **National Gallery of Scotland** Narrows. The Nation, N:29 Edinburgh (Art galleries, libraries, and Virgin Islands, British, V:402 Nationalism, N:44 museums), E:79 Naruhito (Japanese crown prince) World (Nations of the world), W:317; Japan (Recent developments), J:60 National Gallery, E:79 (table) W:318 National Geographic Society, N32 Royal families (Japan), R:420; picture Nation of Islam National government on R:418 See Black Muslims Political science, P:653 Narváez, Pánfilo de Spanish soldierl, National Health Service (NHS), N.33 Nation-state N:25 Government (The Middle Ages), G:276 Narwhal (whale), N:25 with picture Nationalism (The rise of nationalism), National heritage, N:34 Whale (Belugas and narwhals), W:207; National Income, N:35 with diagram picture on W:205 Economics (Distribution of incomes). Nation, Carry Amelia Moore [Ameri-NASA can social reformerl, N:29 E:62 See National Aeronautics and Space National Aeronautics and Space Ad-Income, 1:52 Administration National Industrial Recovery Act ministration (NASA), N:30 Nasal bone [anatomy] Astronaut, A:681 New Deal (Helping Industry and la (1933)Face, F:3 Astronomy (Space exploration), A:699 Nasal passage Jet Propulsion Laboratory, 1:107 bour), N:110 Nose, N:303 Johnson Space Center, 1:134 National Insurance, N:35 Economics (Public services), Es3 Nasal sac system Space exploration (The space race be-Whale (Senses), W:209 gins), So:141; (Apollo: Mission to National Labor Relations Act New Deal (The Second Hundred Day) Nascimento, Edson Arantes do the moon) So:148: (The Chal-See Pele lenger disaster) So:160 National Liberation Front (NLF) Naseby, Battle of [1645] See also Space travel

National Air and Space Museum

Washington, D.C., W:56

National anthem, N:30

Albania (History), A:231 Algeria (Government), A:261

on, D:353 Yemen (Formation of Yemen (Aden)), Indonesia, I:200 Ireland, History of (The growth of na-NATO See North Atlantic Treaty Organization National Library of Scotland tionalism (1900-1921)), 1:376 Natoma (work by Herbert) Edinburgh (Art galleries, libraries, and Italian literature (Romanticism), 1:446 Herbert, Victor, H:162 lava (The rise of nationalism), J:70 museums), E:79 Natsume Soseki Ijapanese authori Latvia (History), L:104 National lottery, N:36 Japanese literature (The modern pe-Nation, N:29 National Mail riod), J:64 Nazism (The birth of Nazism), Na63 Washington, D.C., W:56 Natterjack toad National Museum (Naples) Opera. 0:465 Toad (Kinds of toads), T:268 Patriotism (Development of patriot-Herculaneum, H:163 Natural, The [book by Malamud] Ubrary (Rome), L:230 ism), P:217 Malamud, Bernard, M:77 Prejudice, P:761 Naples (Cultural life), N:17 Natural bridge, N:46 Revolution of 1848, R:247 National New Technology Telescope Natural childbirth Roman Catholic Church (Nationalism National Optical Astronomy Obser-Childbirth (Methods of childbirth), and the church), R:343 vatories, N:39 C:412 National Optical Astronomy Obser-United States, History of the (Growing Natural Curiosity, A (book by Drabble) nationalism), U:245 vatories (NOAO), N:36 with picture Drabble, Margaret, D:278 World, History of the (The rise of de-**National Panchayat** Natural Disasters Organization mocracy and nationalism), W:353 Nepal (Government), N:75 Civil defence, Ci:39 World War I (The rise of nationalism), National parks, N:37 Natural dye W:362 See also list of Related Articles Dye (Kinds of dyes), D:362 World War II, W:379 Conservation (Asia), Ch302; (Europe) Lake, L:16 Nationalist China CE302 Natural Environment Research Coun-See Taiwan National Party [South Africa], N:43 Nationalist Party (Australia) South Africa, History of, So:82; (Na-Nature Conservancy Council, N:49 Hughes, William Morris (Prime ministional Party rule) So:83 Natural fibre ter), H:343 National Radio Astronomy Observa-Agriculture, A:162 Nationality, N:45 tory (NRAO), N:43 Fibre, F:66 Races, Human (Race and ethnic or na-Observatory (Radio observatories), Rope, R:394 tional identity), R:49 Textile (Sources of textile fibres), T:169 Nationality and the War book by National Recovery Administration Thread, T:229 Toynbee] Natural gas Toynbee, Arnold Joseph, T:322 New Deal (Helping industry and la-Balloon (Gas balloon), B:60 Nationalization, N:45 bour), N:110 Cooker, (Gas cookers), Cl:332 Communism (The centrally planned National Resistance Movement (politi-Energy supply, E:248 economyl, Cl:240 cal organization] Fuel, F:478 Conservative Party (Policies), Cl:305 Mozambique (History), M:680 Gas (Development of the natural gas Government ownership, G:277 National Solar Observatory industry), G:56 Socialism (Goals and methods of so-National Optical Astronomy Obser-Gas (Early uses of natural gas), G:56 vatories, N:36 cialism), So:9 Gas (How natural gas was formed), United Kingdom, History of the (The National Space Development Agency C:55 welfare state), U:152 of Japan Gas (fuel), G:48 **Native American** Space exploration (Alpha), So:156 Gas (Leading natural gas producing Indian, American American Indians or **National Theatre** countries). G:54 Native Americans?, 1:139 See Royal National Theatre Gas (Where natural gas comes from), National Trust, N:43 Native bear map on, G:52 Stately homes of Britain and Ireland Koala, K:311 Heating (Gas), H:128 (Voluntary help), So:297 **Native** cat Hellum (Production), H:138 National Union Party See Marsupial cat Texas (Economy), T:168 Native Companions (work by Hope) See Republican Party Natural gas liquids (NGL), N:46 National Woman's Christian Temper-Hope, Alec Derwent, H:275 See also Butane and propane; Ethane; ance Union Native Indian Gas [fuel] Weman's Christian Temperance Union Indian, American, 8137 Natural-gas well (WCTU), W:291 Native metal Well, W:144 National Women's Political Caucus Ore. 0:492 Natural history Steinem, Gloria, So:313 Native Son [book by Wright] See Nature study Nationalism, N:44 American literature (Realist fiction), Natural History and Antiquities of Arabs (Arab nationalism), A:493 Selborne book by Whitel Australia, History of, A:813 Wright, Richard, W:419 White, Gilbert, W:231 Christianity (The rise of nationalism), Nativism Natural History Museum Latin-American literature (Romanti-C:486 London (Museums and libraries), Classical music (The romantic era), cism), 1:95 L:369 Morse, Samuel Finley Breese (Morse Clifca Museum (Science and technology mu-Education (The rise of universal state as artist), M:618 seums), M:719 schools), E:94 Psychology (Beginnings), P:829 Natural History [book by Pliny] Europe, **E:389** Nativity Botany (Beginnings), B:480 imperialism (Motives), 1:46

Christmas, C:487

lesus Christ, J:96

Nativity, The painting by Dürer picture

Pliny the Elder, P:596

Science (Ancient Rome), S:144

India, Literature of (The birth of nation-

alism), 1:128

Novel (France), N:312

Realism (In fiction), R:159

Rostand, Edmond, R:404

Nautilus (sea animal), N:51 with plans Natural killer cells Naturalism [moral theory] Immune system (The immune re-Ethics (in the 1900's), E:337 Argonaut, A:565 Shell (Octopuses and squids), \$1346 sponse), I:41 Naturalism in the Theatre (book by Natural law Nautilus (submarine) Arctic (Arctic exploration), A:544 Civil rights, Ct:41 Zola, Émile, Z:501 Law (Ancient Roman law), L:113 Naturalist Arctic Ocean (Exploration of the Arctic Natural levee Ocean), A:548; map on A:547 See Nature study and its list of Related River (The channel of a river), R:290 Exploration (Polar exploration), E427 Articles **Natural** monopoly Naturalistic Novelists, The book by Inertial guidance (History), 1:227 Public utility (Ownership), P:843 Zolal Navy (Navies during the Cold War. Natural number Zola, Émile, 2:501 N:61 Naturalistic observation Nuclear reactor (History), N:335 Number theory, N:343 Rickover, Hyman George, R:272 Natural pest control Psychology, P:828 Submarine (Early submarines), South Environmental pollution (Agriculture), Naturalization Citizenship, Cl:16 E:307 (Nuclear submarines) Soc372 Natural philosophy Immigration (Integration of immi-Warship (Warships in the nuclear and Philosophy (Philosophy and science), grants), 1:35 W:46 Nature |book by Emerson] Nauvoo Legion Natural porcelain American literature (Nonfiction prose), Smith, Joseph, S:499 Porcelain (Hard-paste porcelain), P:688 Navajo (tribe) Indian, American (Indians of the Emerson, Ralph Waldo, E:229 Raisin (Preparation for market), R:122 Nature Southwest), 1:159 with picture Natural resin Colour, Ci:191 with pictures Navajo conflicts Resin, R:238 Science (Observing nature), S:141 Indian Wars, 1:177 Natural resources, N:46 Nature and Nurture (book by Hogben) Naval architect See also list of Related Articles Ship (Designing and constructing) Hogben, Lancelot, H:242 Conservation, Ch292; (To meet de-Nature Conservancy Council, N:49 ship), \$:384 mands for resources) Ci:293 Nature of Love, The [work by Wright] Naval mine Industry, 1:221 Wright, Judith, W:418 Mine warfare, M:482 Technology (The depletion of natural Navy (The role of mines), N:58 Nature reserve resources), T:86 See Reserve Naval mutinies, N:51 Naval Officer, . . . the Life of Frank World (Threats to the environment), Nature study, N:49 Mildmay, The (book by Marryal See also list of Related Articles W:328 with picture Marryat, Frederick, M:220 Natural rights Nature versus nurture Civil rights, Ci:41 Naval stores, N:51 Heredity (Heredity and environment), Democracy (Origins of democracy), H:170 Nave Architecture (table), A:515; [Eurly D:103 Nature worship [religion], N:49 Christian architecture) A:522 Natural rubber Animism, A:422 Rubber, R:429 with pictures and map Basilica, B:132 May Day, M:276 Cathedral (The Latin cross ground Natural science Pantheism, P:131 plan), C:262 with diagram Social science. Soc5 Natyasastra lessay by Bharatal Romanesque architecture, R34 Natural selection, N:48 Drama (India), D:296 Adaptation, A:32 with pictures India, Dance and music of (History). Navel Umbilical cord, U:20 Animal (How species change), A:411 Biology (The theory of evolution), Naughty Marietta (work by Herbert) Navel orange B:307 Herbert, Victor, H:162 Orange, 0:481 Navicular (animal disease) Darwin, Charles Robert (Darwin's theo-Naulakha, The (book by Kipling) Horse (Medical care), H:298 ries), D:39 Kipling, Rudyard (His life), K:286 Navigatio Sancti Brendani (hqok b) Evolution, E:408 Nauru | Pacific Island], N:49 with pictures Heredity, H:168 Brendan) and map Brendan, Saint, B:552 Life (Adaptation), L:246 Flag picture on, F:206 Navigation, N:51 with pictures Plant (How plants change), P:564 Nausea (disorder), N:50 See also list of Related Articles Protective coloration, P:812 Vomiting, V:425 Aeroplane (Flight navigation), A101 Races, Human, R:47; (Evolutionary the-Nautical Almanac with diagrams ory) R:43 Almanac, A:280 Inertial guidance, 1:227 Science (Scientific advances of the Log (Electronic navigation devices) **Nautical** chart 1800's), S:148 Map (Mobility map), M:183 Wallace, Alfred Russel, W:23 L:359 Nautical measurements Radar (In ship navigation), R:55 Naturalism [literature], N:48 Ship table on, \$:363 Ship (Navigating a ship), \$:382 Space exploration (Navigation, gual American literature, A:315 Nautical mile Drama (Early realism), D:298 Inertial guidance (How inertial guidance, and control), Soils Star (Measuring direction and post-Dreiser, Theodore, D:306 ance works), 1:227 French literature, F:449 Knot. K:306 tion), So:283 German literature, G:110 Latitude, L:100 Sun (Telling time and directions), Latin-American literature (Realism), Mile, M:464 Nautical survey L:96 So:412

Surveying (Types of surveys), So:445

Nautical terms

Ship (table), S:363

Navigation acts, N:56

dustry), Ci:184

Colonial life in America (Trade and in

Petit point, P:326 with picture

Nebular hypothesis (astronomy), N:65 R:256 Navigation equipment South Africa, History of (White occu-Earth picture on, E:24 Ship (Navigating a ship), S:382 Laplace, Marquis de, L:62 pation of the Interior), \$0:79 Navigation light Solar system (Monistic theories), So:27 South Africa (People), So:58 Aeroplane (The wing), A:89 Necessary judgment (psychology) Transvaai (History), T:364 Navigation satellite Zimbabwe (People), Z:494; (History) Judgment, J:156 Satellite, Artificial, S:97; (History) S:98 Necessary truth (philosophy) Z:496 Nevigational buoy Age of Reason (The worship of rea-Nd:glass laser Beacon, B:164 with picture Laser (Solid-state lasers), L:73 son), A:156 Navigator Metaphysics (Possibility and neces-N'Djamena [Chad], N:63 Canal (Britain and Ireland), C:110 sity), M:379 Chad, C:331 with map; picture on Navigator, The book by West C:333 Neck (anatomy) West, Morris, W:156 Skeleton (The axial skeleton), S:460 Nd:YAG laser Navigator, The [film] with diagrams Laser (Solid-state lasers), L:73 Keaton, Buster, K:208 Ne Win, U (Burmese political leader) Throat, T:230 Nevratilova, Martina (American tennis Whiplash, W:228 with diagram Burma (Independence), B:661; (Socialplayerl, N:56 Necker, Jacques [French statesman], ist republic) B:661; (Recent devel-Tennis (table), T:147; (table) T:148; opments) B:661 (Tennis today) T:149 with picture Necking larchitecture Presidency (Unlimited presidency), Navitar Global Positioning System Column, Cl:213 Navigation (History), N:55 Necklace (jewellery) Neagh, Lough Navvy Jewellery, J:109 with picture See Lough Neagh Canal (Britain and Ireland), C:110 Pearl (Matching pearls), Pt234 Neale, John Mason (English hymn New, N:57 with pictures Necktle, N:65 writerl, N:63 See also list of Related Articles Necrobiosis Neander Valley Nevy Jack [flag], N:62 Death (Medical aspects of death), D:58 Prehistoric people (Neanderthals), Newaz Sharif [Pakistan prime minister], Necrology, N:65 P:756 Necromancy, N:65 Neanderthal man, N:63 Nazarbayev, Nursultan (president of Divination, D:205 Germany (Ancient times), G:130 Kazakhstan), N:62 Necropolis (cemetery), N:66 Prehistoric people, P:756 Kazakhstan (History), K:206 Necrosts, N:66 Neap tide Nezarene, The (book by Asch) Death (Medical aspects of death), D:58 Ocean (Tides), 0:395 Asch, Sholem, A:619 Match (The first matches), Ms253 Tide (High tides and low tides), T:242 Nazareth [Israel], N:62 Nectar ibotanyi, N:66 Neapolis Israel (The Judeo-Galilean Highlands), Bee, B:184; (Making honey) B:188 Naples, N:17 1:433 Honey, H:264 Near complementary colour Nazism, N:63 Honeyeater, H:265 Colour (Producing colour harmony), See also list of Related Articles Nectar (Greek mythology), N:66 Cl:196 Auschwitz, A:748 Ambrosia, A:302 Near East (geography), N:64 Concentration camp, Ci:272 Nectarine, N:66 with picture Near Islands German literature (Literature under the Needle Itooll, N:66 with pictures Aleutian Islands, A:242 Nazis), G:110; (German literature Clothing, Ch88 after 1945) Nearctic realm Prehistoric people (The improvement Bird (The distribution of birds), 8:319 Germany (Nazi Germany), G:136 with of tools), P:758 Nearest the Pole [book by Peary] picture Sewing, 5:285 Peary, Robert Edwin, P:237 Hider, Adolf, H:227 Needle felt Nearsightedness Holocaust, H:249 with picture Textile (Nonwoven fabric), T:172 Eye (Defects of the eye), E:439 with di-Mein Kampf, M:326 Needle-punched fabric lews (Beginnings of Nazi persecution), Textile (Nonwoven fabric), T:172 Myopia, M:749; Eye (Defects of the J:116; (The Holocaust) J:116 with Needle-punched floor coverings eye), E:439 with diagram Rugs and carpets (Other methods), Nationalism (Different forms of nation-Neath (Wales), N:64 R)451 Glamorgan (Places to visit), G:180 alism), N:44 Needle valve Nebraska (U.S.A.), N:64 with map Nuremberg, N:351 Dam (How dams are built), D:14 Popular sovereignty, P:684 Plus XII, P:529 Needfefish Nebuchadnezzar I (king of Babylon) Propaganda (Between the wars), Ps807 Gar. G:32 Nebuchadnezzar, N:64 Rosenberg, Alfred, R:401 Needleleaf tree Nebuchadnezzar II (king of Babylon) World War II, W:378 with pictures Tree, T:374 with pictures Nebuchadnezzar, N:64; Babylon (The and maps Needlepoint lembroideryl, N:67 with new Babylonian Empire), B:12; Malaymboll (The fall of Babylon) B:12; World, pictures Niobium, N:220 Needle's Eye, The work by Drabbiel History of the (Middle Eastern Nd (symbol) Drabble, Margaret, D:278 civilizations), W:336 Neodymium, N:73 Needlework Ndadaye, Melchlor (Burundi political Nebula [astronomy], N:64 with picture Crocheting, Ch446 with pictures Astronomy (Astronomy terms), A:688; leader] Embroidery, E:226 with pictures Burundi (History), 8:666 pictures on A:688, A:690 Knitting, K:304 with pictures Ndebele (people) Earth (The birth of the solar system), Lace, L:7 with pictures Bulawayo, B:631 E:23 with pictures Needlepoint, N:67 with pictures Mzilikazi, M:766 Nebular hypothesis, N:65

Orion, 0:496

Rhodes, Cecil John (Gains Rhodesia),

the satyagraha campaign), k:118;

Ouilt. 0:29 with nicture (The new republic) 1:118 with pic-Furniture, F:501 Sampler, S:62 with picture Sewing, S:285 with diagrams Nehru, Motilal Indian political leader Néel temperature Nehru, N:70 Painting, P:68 Magnetism (Magnetism of materials). Nellson, Shaw Australian writerl Poetry, P:616 M:57 Australia, Literature of (Other poetry). Neel, Louis Boyd British conductorl. Nellson, John Shaw [Australian poet]. Nefertiti Iqueen of ancient Egypti. N:67 N:71 with portrait Nekton Negative Ocean, 0:391 with pictures Photography (Developing and print-Nelson [New Zealand], N:71 So:350 ing). P:452 with pictures Nelson, Horatio (British admiral), N:71 Negative acceleration with postrait Force, F:337 Nelspruit Itown, South Africal, N:73 Neocortex Motion (Acceleration), M:646 Neman River |Belarus/Lithuania|, N:73 Brain, B:519 Velocity (Acceleration), V:325 Nemania, Stefan | Serbian chieftain| Negative eugenics Serbia (History), 5:268 Eugenics, E:353 Nematocyst Negative ion Invertebrate, £322 Atom (Electric charge), A:726 Ribbon worm, R:260 with picture Negative number Nematode N:73 Algebra (Positive and negative num-See also list of Related Articles Neolithic Fra bers), A:254 Animal (A classification of the animal Square root (Square roots of negative kingdom), A:414 numbers), So:245 Gall, G:14 with picture Negatron Grape (Diseases and pests), G:298 Gamma ray, G:26 Invertebrate, 1:322 Negeri Sembilan, N:68 Roundworm, R:412 with picture Negev [Israel], N:69 Soybean (Diseases and pests), So:126 Irrigation (Other sources), 8:406 Nematomorpha Israel, 1:435; picture on 1:436 See Horsehair worm Negligence [law], N:69 Nemean Games, N:73 Negotiable instrument, N:69 Namertea Negotiation Animal (A classification of the animal International relations (Diplomacy), kingdom), A:414 Village, V:393 1:293 Nemertina, N:73 Negrillos See also Ribbon worm Pyamies, P:870 Nemesis (Greek mythology), N:73 Negritos (people), N:69 Németh, Mikiós (Hungarian political Pacific Islands (Melanesians), P.4. leader Neon light Philippines (Population and ancestry), Hungary (Recent developments). P:372 with picture H+363 Pyamies, P:870 Nemi ritual Negro in the American Revolution, Plasma, P:574 Mythology (Frazer's theory), M:764 The book by Quarles Nene [bird], N:73 Neon tetra Quarles, Benjamin Arthur, 0:7 Bird picture on, 8:335 Negro in the Civil War, The book by Nene, Tamati Waka [Maori chief] Quarles] Waitangi, Treaty of, W:7 Algren Quaries, Benjamin Arthur, 0:7 Nenetz (people) Negro in the Making of America, The Arctic (In the Siberian arctic), A:543 lbook by Quaries! Neonatal death Neo-Confucianism Quaries, Benjamin Arthur, Q:7 Confucianism (Later Confucianism), Negro Question, The book by Cable] Neonatology Cable, George Washington, C:7 Philosophy (Oriental philosophy), Negroids P:422 Neopiasm Europe (Racial groups), £363 Neo-Darwinism Tumour, T:438 Races, Human (Systems of racial classi-Darwin, Charles Robert (The influence fication), R:43 with picture of Darwin's Ideas), D:40 Negros (island) Neo-Maithusianism Philippines (The main islands), P:380 Malthus, Thomas Robert, M:124 Nehemiah, Book of Old Testamentl, Neoclassicism Plotinus, P:597 Architecture (Neoclassical architec-Nehru, Jawaharlai Iindian political ture), A:529 with picture Rubber, R:437 Classical music (The 1900's), Ch62 Nehru, N:70 with picture; Gandhi, Mo-Classicism, Ci:65 Film industry (Postwar realism), F.104 Neorealism handas Karamchand picture on, Drama (Italian Renaissance drama), Italian literature (The 1900's), 1:446 G:28; India, History of (Gandhi and D:290; (French neoclassical

drama) D:293

Italian literature (The baroque period and the Age of Reason, 1:446 Sculpture (European sculpture), \$20 Shakespeare, William (Neoclassic) criticism). S:325 Spanish literature (Neoclassicism.mmanticism, and realism). Source Stravinsky, Igor (Neoclassical works), Neocolonialism Colonialism, Ci:186 Neodymium Jelement N-73 Laser (Solid-state lasers), 1:73 Neoexpressionism Kiefer, Anselm, K:246 Neoimpressionism Seurat, Georges, S:278 Daniel, Glyn, D:30 Neolithic Period, N:73 Assyria (People), A:674 City (How cities began and developed CI:21 with pictures Invention (Prehistoric times), 1:314 Lake dwelling, L:22 Prehistoric people (The first human beings), P:751 with picture, (Changes in lifestyle) P:760 Sculpture (China), S:200; (Japan) \$200 Stone Age, So:334 Neon (element), N:73 Electric light (Neon lamps), E:150 Laser (Gas lasers), L:73 Noble gas, N:237 Electric light (Gaseous-discharge lamps), E:150 Invention picture on, 1:312 Fish picture on, F:165 Tetra, T:165 with picture Neon Wilderness, The book by Algren, Neison, A:267 Infant mortality, 1:228 Medicine (The specialities), M311 Neoplatonism, N:74 Painting (Florentine masters), P54 Philosophy, P:424 Plato (Plato's place in Western thought), P:591 Neoprene rubber Neoptolemus (Greek warrior), N.74

Eagle (The life of an eagle), E3

Hornet, H:283 with picture

Nerve (anatomy)

Fish (Nervous system), F:170

Human body (The nervous system),

H:369: picture on H:370 Spider (How spiders use silk). So:221 with nicture Soutrrel (Homes), So:255 Stork, So:337 with picture Tent caterpillar, T:153 with picture Termite (Life and habits), T:156 with Wasn (Nests), W:64 Weaverbird, W:123 with picture Animal (Incubation), A:406 Ellesmere Port and Neston, E:216 Nestorian Christians (religion), N:85 Nestorius (bishop of Constantinople) Nestorian Christians, N:85 Net [fabric], N:86 with pictures Textile (Nets and laces), T:172 Fishing industry, F:191 Economics (Important terms in economics), E:65 Net material product Gross domestic product (Interpreting the GDP), G:383 Net national product National income (Determining national income), N:35 Netball (game), N:87 with pictures Nether Stowey [England] Somerset (Places to visit), So:38 Netherlandish Proverbs, The lpainting by Bruegell Bruegel, Pieter, the Elder, B:597 Netherlands, N:88 with pictures and See also list of Related Articles Amsterdam, A:344 with picture Aviation (Aircraft nationality marks), Belgium map on, B:222 Christmas, C:490 Death (The right to die), D:59 Decorations, medals, and orders, D:75 Europe (table), E:359 Flag picture on, F:209 Indonesia (The Dutch empire), 1:198 Painting (Dutch painting), P:64 with Rotterdam, R:409 with picture Royal families, R:419 South Africa, History of (White settlement in South Africa), So:77 with Netherlands Antilles (Caribbean), N:101 with map Aruba, A:615 with picture Curação, Cl:500 Netherlands (Government), N:89

Saha, St2 Saint Eustatius, \$:32 Netherstock Clothing (The Renaissance), Cl:102 Netted melon Melon (Types of melon), M:338 Crocheting, Cl:447 Nettle Iplantl, N:101 with picture Nettle rash Hives, H:233 Nettle tree Hackberry, H:3 Network [computing] Encyclopedia (New types of encyclopedia). E:237 Netzahualcóvoti [Mexico], N:101 Neuber, Caroline [German actress] Drama (Germany), D:296 Neumann, Saint John Nepomucene [American religious leader], N:102 Neural circuit Nervous system (How messages are routed), N:83 Neuralgia (disorder), N:102 See also Neuritis Neuritis [disorder], N:102 Neurobiology Biology (The growth of modern biology), B:307 Brain, B:511 Neurofibromatosis (disorder), N:102 Neurogita Brain, B:511 Neurologist Medicine (Specialists), M:308 Neurology, N:102 Freud, Sigmund (His life), F:457 Medicine (The specialities), M:311 Neuron Brain, 8:511 Electroencephalograph, E:175 Human body (The nervous system), H:356 Nervous system (How the nervous system works), N:81; (Parts of a neuron N:82 Neuropathology, N:103 Neuroptera Insect picture on, k:243; (table) 1:262 Neuroscience Brain, 8:511 Neurosis, N:103 See also list of Related Articles

Abnormal psychology Theories of ab-

normal psychology), A:12

Clinical psychology (Psychotherapy

Freud, Sigmund (His theories), F:457

and consultation), Cl:84

Mental illness (kinds of mental ill-

Psychiatry (Psychiatric disorders),

Surgery (Other specialized fields),

Neurotic Personality of Our Time.

The (book by Horney)

Introvert, 1:299

P:R25

So:439

Neurosurgery

nesses), M:351

Horney, Karen, H:283 Neurotransmitter Brain (The brain's chemical messengers), B:516 Depression, D:125 Mental illness (Chemical Imbalances). Nervous system (Transmission across synapses), N:84 Schizophrenia, S:125 Tourette syndrome, T:311 Gender, G:74 Noun (Gender), N:309 Neutering Cat (Birth control), C:253 Pet (Birth control), P:323 Neutra, Richard Joseph (Austrian architectl, N:103 Neutral (chemistry) Neutralization, N:104 **Neutral** nation Third World, T:220 Neutrality, N:103 International law, I:291 Switzerland (Neutrality In the world wars), So:501 Neutrality Act [1935] Roosevelt, Franklin Delano, R:389 **Neutrality Proclamation** (American

astronomical bodies), Mes7

Star (Star terms), So:280; (The size of

Telescope (X-ray telescopes), Titls

Blood (White-cell abnormalities)

Blood (Protecting against disease)

immune system (Parts of the immune

system). I:39

Neva River [Russia], N:105

Nevada [U.S.A.], N:103 with map

N:106 with picture

Nevelson, Louise | American sculpter!

Nevins, Allan (American historian)

SeeSaint Christopher and Nevis, M307

Saint Christopher and Nevis (Landard

Nevison, William English highwemen

New York City (Settlement), N:150 with

See Saint Christopher and Nevis

stars) So:281

Supernova, So:428

Pulsar, P:852

Neutropenia

Neutrophil

N:106

Nevis lisland

Nevis, Ben

Nevis Peak [mountain]

See Ben Nevis

climate), \$:31

Highwayman, H:201

picture

New Amsterdam (U.S. history)

New York (History), N:141

writings), So:322

New Brighton [England]

with map

Ibook

CI:442 New Deal (U.S. history), N:109

Great Depression, 6:320 Roosevelt, Franklin Delano, Risk

New Atlantis, The book by Bacon

Science fiction (Beginnings), \$:151

Science (The scientific revolution),

Merseyside (Places to visit), M36

New Britain Papua New Guineal, M107

Atlantic Provinces, A:721 with picture

New Caledonia [Pacific Ocean], Nato

New Century Cyclopedia of Name

Bismarck Archipelago, B:370

New Brunswick (Canada), N:107

New Arabian Nights (book by Stever

Stevenson, Robert Louis (Stevenson's

Nevis

D:400

Washington, George, W:62 Neutralization [chemical reaction]. NITO See also list of Related Articles Neutrino (atomic particle), N:105 Dark matter, D:35 Lepton, L:184 Particle physics (Leptons), P:206 Pauli, Wolfgang, P:220 Radioactivity (Beta radiation), R:88 with diagram Neutrino telescope

with picture Baryon, B:122 Electricity, E:166 Element, Chemical (The Periodic Table), E:195 Graphite, G:301 Harkins, William Draper, H:61 Magnetism (Magnetism in atoms),

Astronomy (Astronomy terms), A:688;

Magnetism (The magnetism of other

(Stars) A:690

Black hole (Formation), B:375

Astronomy (Other telescopes), A:694

Atom (The parts of an atom), A:724

Neutron latomic particlel, N:105

Barnhart, Clarence Lewis, B:114 New city City (Future cities), CE37 Town planning (Building new commis Nuclear energy (Atoms and nuclei), N:320; (Nuclear fission) N:321 nities), T:318 Nuclear physics, N:332 New Cornedy (Greek drama) Nuclear weapon (Fission weapon), N:335; (Initial nuclear radiation) Drama. D:287 Greek literature (Drama), G357 N:337 New Cornelia Tailings dam Quark, Q:7 Dam (table), D:13 Neutron bomb New Criticism [[iterature] Criticism (History of literary criticism) Bomb (Hydrogen bomb), B:436 Neutron star, N:105

New Delhi (India), N:110 with picture Asjan Games, A:665 Delhi, D:92 with pictures New Economic Mechanism

Hungary (Economy), H:378

New Economic Policy Communism (Under Lenin), Ci:241 New England (Australia), N:111

New England [U.S.A.] American literature, A:310

United States, U:189 United States, History of the, U:238

New England aster Aster, A:678 with picture

New England Confederation (U.S. historvi, N:112

New England Upland New York (Land), N:140 Pennsylvania (Land), P:263 New England, Dominion of [U.S. his-

tory), N:111 New English Bible, The

Bible (Modern English translations), New Forest Igovernment district, En-

glandi, N:112 See also Hampshire

New Forest (wooded area, England), N:112 Hampshire picture on, H:35

New France (Canadian history), N:112 with picture and map See also list of Related Articles

Canada, History of (The development of New France), C:98 with map New French Review, The litterary mag-

azineì French literature (The four masters),

F:450

Gide, André, G:156 **New Frontier**

Kennedy, John Fitzgerald (Kennedy's administration), K:217 New Group, The

South Africa, Art of: So:70

New Guinea (Pacific Ocean), N:114 with pictures and maps See also list of Related Articles

Indonesia, 1:190 Payback, P:222

New Hampshire [U.S.A.], N:115 with map

New Hebrides Islands See Vanuatu

New Heloise, The work by Rousseau Rousseau, Jean-Jacques (His ideas), R:413

New Holland, N:116

New Ireland |Papua New Guineal, N:116 Bismarck Archipelago, **B:370** New Jersey (U.S.A.), N:116

United States, History of the (The Mid-

die Colonies), U:239 New Jersey

Battleship (The modern battleship), 8:158; (The rebirth of the battleship) B:13a

Now Jerusalem Bible, The Bible (Modern English translations), B:277

New Kingdom of Granada Colombia (History), Ck173

New Left (political movement), N:117

New Life, A (book by Malamud)

Malamud, Bernard, M:77 New Machiavelli, The [book by Wells] Wells, H. G., W:148

New mathematics, N:117

Mathematics (Trends in teaching mathematics), M:261

Numeration systems (Rediscovering numeration systems), N:350

Set theory (History), S:277

New Meaning of Treason, The book by Westl

West Dame Rebecca, W:156

New Mexico (U.S.A.), N:118 with picture and map

New Moon, The Imusical by Hammerstein

Hammerstein, Oscar, II, H:32

New moon

Moon (The phases of the moon), M:591 with diagram

New Music, The [book by Copland] Copland, Aaron, Cl:340

New Music. The [work by Dyson] Dyson, Sir George, D:366

New Netherland [U.S.A.], N:119

New York (History), N:141 United States, History of the (The Middie Colonies), U:239

New Norcia [Australia], N:119 with picfring

New Novel

French literature (French drama of the mld-1900's), F:450

New Orleans [U.S.A.], N:119 with pictures and map

Jazz (The roots of jazz), J:74 New Plymouth (New Zealand), N:121

New Poems (poetry by Rilke) Rilke, Rainer Maria, R:277

New postry

American literature (Experiments in poetryl, A:318

New populists [politics] Populism (influences of populism).

P:687

New process system

Maize (The dry-milling Industry), M:74

New Providence (island) Bahamas (Land and climate), B:29

New Revised Standard Version Bible (Modern English translations),

B:277

New Scotland Yard

Police (United Kingdom), P:642 New South Wales [Australia], N:122

with pictures and maps See also list of Related Articles Australia, History of, A:794

Bligh, William, B:387

Convicts in Australia, Cl:321

First Fleet, F:148 Macquarte, Lachian, M:22 Phillip, Arthur, P:416

Possession Island, P:710

Queensland (Early settlement), Q:25 Rain shadow area, R:119

Squatters in Australia, So:248 Wentworth, William Charles, W:153

New South Wales Corps, N:135 Australia, History of, A:800

New South Wales (History), N:133 New South Wales Surf Bathers' Asso-

ciation Surf lifesaving (History), So:435

New Statesman [periodical]

Webb, Sidney and Beatrice, W:127

New Stone Age

City (How cities began and developed), C1:21 with pictures

See also Stone Age

New Sweden (U.S.J, N:135

Stuyvesant, Peter, So:366

United States, History of the (The Middle Colonies), U:239

New Territories (region, Hong Kong) Hong Kong, H:266

New Testament, N:135 with picture See also list of Related Articles Bible, B:270, B:273 Christianity (Beliefs), C:484 Islam (Teachings of Islam), I:413

Jesus Christ, J:96 Simon, Saint, S:430

New Theory of Evolution, A lbook by Keith)

Kelth, Sir Arthur, K:210

New Thought [philosophy], N:137

New town, N:137 City (Future cities), Cl:37

Essex (Local government), E:332

Housing, H:329

Town planning (Building new communities), T:318

New Towns Act [1946] Peterborough, P:326

New Verse (poetry by Bridges) Bridges, Robert Seymour, 8:570

New Voyage Around the World book by Dampier)

Dampier, William (First circumnavigation), D:19

New Way to Pay Old Debts, A iplay by Massinger

Massinger, Philip, M:247

New wool

Wool (Types of wool), W:310

New World

Indian, American, E137 Old World, 0:428

United States, History of the (Columbus), U:237

New World cotton Cotton, Cl:383

New World spear-nosed bat

Rat (Kinds of bats), B:148

New World warbler Warbler, W:38

New Worlds to Conquer book by Halliburton

Halliburton, Richard, H:23 New Year's Day, N:139 with pictures April Foois' Day, A:482

New York (U.S.A.), N:140 with picture

and map

United States, History of the (The Middie Colonies), U:239

New York City, N:142 with pictures and

See also list of Related Articles George Washington Bridge, G:102

New York, N:140 Wall Street, W:23

New York Journal

Cartoon (Modern cartooning), C:220 Hearst, William Randolph, H:98 Outcault, Richard Felton, 0:523 with picture

New York School of Philanthropy Social work (History), Social

New York Stock Exchange New York City (Finance), N:150 New Zealand, N:152 with pictures and

See also list of Related Articles

Agriculture, A:168 Anzac, A:498 with picture and map ANZUS, A:468

Aviation (Aircraft nationality marks),

A:681

Ballet (Ballet in Australia and New Zealand) #457

Bird (Birds of Australia and New Zealand), B:332 with pictures; (Endangered species 8:357

Christmas, C:491 Civil defence, Ck38

Conservation (Australasia), Ch303 Cook, James, Ch327 with maps

Cook Islands, Ck332

Cricket (Cricket in New Zealand). Ck433

Dollar, Dt249

Flag picture on, F:206 Geyser, Gr145

Gold rush, G:230

Government, G:273

Hockey, H:238 Hongi Hika, Ht.271

Immigration (1850-1900. Gold rushes and recession), t:37; (1945 . Easing of immigration rules! £37; (1960

ent days 637 Kendall, Thomas, K:215

Local government, L:347

Manufacturing, M:168

Maoris, M:174 with pictures National parks, No.38

New Zealand, History of, N:164 with pictures

Open University (Other Institutions), O+451

Pacific Islands, Pr2

Parliament (Parliaments In other countries), P:192

Petroleum (Australasia), P:330; (The petroleum industryi P:350

Ploneer life in Australia and New Zealand, P:509 with pictures Police, P:642

Railway, R:105 Rain (Rainfall distribution), R:116 Rugby football (New Zealand), R:448; (Organization), R:445

Southland, Sor122 with picture Station [farm], So:302

Telephone, T:109; (History) T:109

Television, T:126 Theatre, T:204

Trade unions, T:330

Tree pictures on, T:387

Village, V:393

Waitangi, Treaty of, W:5

Wakefield, Edward Gibbon, W:8 Wellington, W:145 with pictures

Wine (Wine production in Australia and New Zesland), W:274 Wool (Wool growing in Australia and

New Zealand), W:312

World War II (table: The Allies), W:381

New Zealand and Australia Land Company

New Zealand, History of (Continuous ministry and the long depression (1876-1890)), N:172

New Zealand Association

New Zealand, History of (The missionaries), N:167

New Zealand Bellbird Bird picture on, B:334

New Zealand Boxing Council

Boxing (Organizations), B:496 **New Zealand Company**

New Zealand, History of, N:169; (British intervention N:167

New Zealand pigeon

Bird picture on, B:334 **New Zealand Shipping Company**

New Zealand, History of (Continuous ministry and the long depression (1876-1890)). N:172

New Zealand short-tailed but

Bat (Kinds of bats), B:148

New Zealand Wars

New Zealand, History of, N:170 New Zealand, Government of

Local government, 1:346

New Zealand, N:153

New Zealand, History of (New Zealand since 1972), N:175

New Zeeland, History of, N:164 with pictures

New Zeeland (bost)

America's Cup, A:331

Salling picture on, \$:27

Newark (New Jersey), N:175 Newark and Sherwood (England),

N:176

Newark (England)

Nottinghamshire (Places to visit), N:307, picture on N:306

Newbory Medal laward, N:176 Literature for children, L:319

Newbery, John (English publisher), N:176

Newbery Medal, N:176

Newbolt, Sir Henry English poetl,

Newburgh (Scotland)

Grampian Region (Places to visit),

Newbury (England), N:176

Newcastle (Australia), Nerra Newcastle disease

Poultry (Raising poultry) Pring

Newcastle-under-Lyme II nated N:177 Newcastle upon Tyne lingland have

Newcastle, Duke of English stone mani. N:177 Newcombe, John (Australian trans

playeri, N:178 Tennis (table), Tr147; (The mid #

T:148, (table! T:148 Newcomen steam engine

Newcomen, Thomas, N:170 Watt, James, W:101

Newcomen, Thomas (British mount N:178

Industrial Revolution (The steam or gine), I:213

Steam engine (The first steem as gines), So:306

Newcomes, The book by Theless Charterhouse, C:355

Thackeray, William Makepears Law careeri, T:177

Newer Ideals of Peace (book by Me dams

Addams, Jane, A233

Newfoundland (Canada), N:178 Atlantic Provinces, At721 with poors Canada, History of map on Crist

Newfoundland dog

Dog, D:230 with picture, N:78 Newgate Prison Londoni, NIDS

Newham (England), N:179

Newman, John Henry Cardini Bros religious leaderl, N:179 Oxford Movement, 0:532

Newman, Paul American admit Mill with portrait

Film Industry (Best performance best actori, F:96

Newmarket (England), N:179 Newport (Wales), Nr178

Gwent (Places to visiti, Guts)

Newport, Christopher English still captaini

Jamestown, J:24

Newty and Mourne Blocken total NOTE

News magazine Magazine (Other megazines), 1865

News media

Journalism, J:149

Public opinion poll (Who uses polls) Ps839

News service, N:179

Journalism, J. 150 Newspaper (Cathering the saud

N:181 News syndicate

Journalism (News survices), \$100 News service, N:179

Newsagent England (Way of Biel, E:286

Newspaper, N:180 with pictures Communication fin the early least

CI:231

t deburgh (Fransport and communica Dest [170 test Street F1225 Inch estate F:377 frager it ommunication) Fo411 turnstem \$149 with picture, (History) B 251 NAM opinion polls (Who uses polls?), P#30 timespesatter, Till? temperated senspaper (Kinds of newspapers), Paper Special kinds of paperl, P1136 temproph ween an inerature (Realist fiction),

4:116 stend Abbey (England) werghamshire (Places to Visit),

No NO 7 et Person

Averal Servel reproduction), As404. picture on A:386 we unit of measure! N:167

Ferre Measuring force), F:337 Inches Fr499

Proor 'physics', P/731 wton, Eddie | American songwriter

ники Саму, \$:130 wton, Sir fange (English physicist),

N:167 with pictures we also list of Related Articles Arradynamics (Buneers of aerody nomics) A:73

Age of Reason (The worship of reason AilS6 (The prefertiness of nature Ai157

Astronomy Califer and Newtonl. Landor History CL27

false Newton and Conthel Ch201 DIMEN DINGS

fore Measuring forrel F:337 fantagy (the Renaissance) Gdt2 Contation Gallon

Moreon (The Age of Reason) k316 In propulsion diany jet propulsion

moute \$102 Table 9 arty tidens about lightly Li264 Mape From the 1300's to the 1700's! 14.46

Mehamatics (Mathematics and the sewesthe revolution), Ms200 Menor Robin Mc905

Button & rings Notice

Advengen Retionalismi P1424 Chrus P1475

falsover Coneral relativity theory). R.193

Backet Now rockets world RG17 brance Ispressing findings math

ematerally! Sci42 (The scientific revolutioni 5:146

theme the ways theory! \$654 Make exploration (The down of the 194c# age: 50:140

Telescope T:113 Reflecting tele-Mispert T:115 John, Olivia | Australian singer! N:180

Newton-metre lunit of measure! Work, W:315

Newton's laws of motion jet propulsion (The principle of jet

propulsion), £102 Motion, Mi647

Newton Sir Isaac (The theories of motion and gravitation! Not87

Physics (Newton) P:475

Rocket (How rockets work), R:317 Newton's rings N:189

Newton's theory of gravitation Gravitation G:309

Newtownabbey (Northern Ireland), N:180

Next Horizon, The Ibook by Boningtoni

Bonington Chris B:440 Next of kin flaw! N:100

Ney, Michel (French military leader), Nition

Nez Percé War Indian Wars, 8:177

See Neurofibromatosis

Ng Eng Tong Singspoteet sculpter Sculpture d'extronmental sculpturel 5:216 with picture

Ngapi Ifrodi

Burma (Food), 8:867

NGL

See Natural gas liquids

Ngo Dinh Diem Vietnamese political Inadest Notes

Geneva Accords G:82

Vietnam The division of Vietnami V:363 shouth Vietnam and the Wat! V:363

Vietnam War (Background to the worl. V:383 darly stages of the worl V:365

Ngouabl, Marten Kangalose political inader!

Cango History! Ch201

Newple Inemple

Fastern Cape Ottstoryl F:40

South Alexa, History of Current in the interiors Soc78 (Annesation of black kingdoms hadd!

Nguyen Van Thies At160

Macin

Nutrition (Vitamina) Rc164 Pullagra, P;240

Vitamin Vitamin 8 complete Vid11

Alegary ship!

Porry Oliver Hazard Pass with per-

Magara focarpment

Nesque a Falls decisionyl. No. 1980

Magaza Falls A. S.A., N. 190 with pile DUMP New York Sand: N:140

North America Shaterfally 16332 Niegers River 1. S.A. N:191

husgara Falls Notice

Malah Caves

Sarawak Places to visit 940

Manney Vigeri, N:101 Niert Valley

Conso (Lend) Cl(380)

Nibehingenfled Kerman epic poeml. No.181

Niceau, Councils of

See Nicene Councils

Niceregue, N:182 with pictures and ALC: UNKNOWN

See also list of Related Articles Aviation (Aircraft nationality marks),

A-001 Hap picture on Fi303

Managua Mc141

Reagan Renald Wilson Political ca court Reife

Niceregue Canel

Nicaragua (The United States and Nica LAGUA NOTHS

Niceregue, Lahr See Lake Nicaraqua

Nice (France: Nitte

Nicone Councils Artis

Athenesius Saint Ac704 Constantine the Caret Ch907

Roman Catholic Church The recognition of Climationity! 81330

Trinity Trees Nicono Crood

Christianity (The early church) Cobs Constanting the Caret (3:307

Lastern Orthodox Churches Blor trimes: \$140

Nicono Councils Notes

Relance of nature discrepations! Bill Michaelas I least of Harons, Politic

Harrist C.405

Michalas I, Saint Ipopol

Pripe The early Middle Agest PATS Michaelae Wieses of Bureto. Jurius was

portrad Case Chass

Resputto Catgori Yalkmanish Bride with purious

Romanin B.300 Bustie Bratt

Michaelas II grayer: 46 986

Page The stantant of a pagest P475 The early Middle Ages P676

Michaelas V proper 16:100 Mir bentan, batert to 100 mith per turte

(Julyamas Kill giring CAR)

handwrighted a Statistical and recomplished **PodM**

Name Nowheater Front of Ball

Lores Cloure \$170

Aftebuille, für Deseglige LAustralian states mon. to 100

Highwite, telling (Armerte an film dermetur) 19,300

film industry Bost printenament in di the Brig Frish

Nicholson Land Art 1880

Australia History of Land eighersten and return Add

Michaeleum, Born Hinglisch, arthol. 10,2000 Michalous, Sir Charles Besteh dector;

No.2000 Michaelum, Jack (American Min prior) 14,200

Printing (Developments in platemak-

Nier, Alfred Otto Carl [American physi-

ing), P:787

Nightmare, N:217 Film industry (Best performance by an cist), N:202 Night Watch, The lpainting by Rem-Nietzsche, Friedrich [German philosoactor), F:96; (Best performance by pherl, N:202 brandtl an actor in a supporting role) F:97 Rembrandt (The last years: 1640-1669), Existentialism, E:415 Nicias (Athenian politician) Philosophy (Philosophy in the 1800's), RIZTI Peloponnesian War, P:249 Nighthawk, N:215 with picture Nickel, N:200 Brass, B:524 Niffheim [Norse mythology], N:202 Nightingale, N:215 with picture Electrotyping, E:195 Mythology (The creation of life), Bird picture on, B:322 Nightingale, Florence (British nurse) M:761; (The construction of the Monel metal, M:545 N:215 with picture and portrait world) M:761 Nickel-cadmium storage battery Medicine (The scientific study of dis-Battery, B:156 Niger [Africa], N:203 with pictures ease), M:316 with picture Nickel-iron alloy Flag picture on, F:201 Nickel, N:200 French West Africa, F:454 with map Nursing (The history of nursing), N331 Hausa, H:79 with picture Nightjar, N:217 with picture Nickel peroxide Nickel, N:200 Niger-Benue River Valley Nightmare, N:217 Nigeria, N:211 Nightshade, N:217 Nickel silver, N:200 Niger Delta See also list of Related Articles Nickelodeon Film industry, F:98 with picture Nihilism [philosophy], N:218 Nigeria, N:211 Russian literature (Early realism), R499 Nicklaus, Jack American golferi, N:201 Niger-Kordofanian language Turgenev, Ivan, T:452 Golf (table), G:248 Africa (Black African languages), Nihon A:123 Nickname Niger River [Africa], N:205 See japan Name, N:11 Nihongi (book) Nicobar Islands Mali (Land and climate), M:115 Japan (History), J:55 Andaman and Nicobar Islands, A:352 Niger (Land and climate), N:204 with Shinto, S:360 Bay of Bengal, B:161 Nicolet, Jean [French explorer], N:201 Nigeria (Land regions), N:210 with pic-Nihonshoki (book) Nicosta [Cyprus], N:201 ture and map Japan (History), J:55 Cyprus, Ci:513 with picture Park, Mungo, P:186 Ntihau [island] Hawaii (Land), H:80 Nicot, Jean French diplomati River (table), R:290 Nijinsky, Vaslav (Russian ballet dancer) Nigeria, N:206 with pictures and map Tobacco (History), T:272 Nicotiana (plant) See also list of Related Articles Ballet (Russian ballet), B:56 with pic Flowering tobacco, F:272 with picture Aviation (Aircraft nationality marks), Tobacco (History), T:272 A:881 Dancing (Dancing since 1900), D:28 Nicotine, N:201 Cameroon (History), C:60 Nike of Samothrace Cigarette, Ch3 Flag picture on, F:201 Drug abuse (Abuse of legal drugs), See Winged Victory lgbo, 1:27 D:320; (Table) D:322 Sculpture (African sculpture), S:202 Nike, Temple of Acropolis, A:26 Insecticide (Botanical insecticides), with picture Nikolais, Alwin | American choreograh264 nigger (book by Gregory) pherl, N:218 Nightshade, N:217 Gregory, Dick, G:366 Niland, D'arcy [Australian author], N2N Smoking (Particulates), S:501 Night [book by Wiesel] Nile crocodile Tobacco, T:269 Wiesel, Elie, W:245 Crocodile, Ci:448 Nicotinic acid Night Reptile picture on, R:231 Vitamin (Vitamin B complex), V:411 Day, D:51 Nictitating membrane, N:201 Night After Night [film] Nile Delta Cairo, C:16 with pictures Bird (Smell, Taste, and touch), B:352 West, Mae. W:155 Delta, D:99 with map Eye picture on, E:443 (Eyes of animals) Night blindness Egypt, E:111 with picture E444 Blindness, B:388 Egypt, Ancient (The land), E:122 Niels Klim (play by Holberg) Eye (Diseases of the eye), E:441 Holberg, Ludvig, H:244 Night heron, N:215 Nile River, N:219 Nielsbohrium Night in Lisbon, The (book by Re-Nile monitor Lizard picture on, L:340 Element 105, E:201 marquel Nielsen, Carl August (Danish com-Nile rat Remarque, Erich Maria, R:209 poseri, N:201 Night Must Fall [play by Williams] Rat, R:141 Nile River, N:218 with pictures Niemeyer, Oscar [Brazilian architect], Williams, Emlyn, W:256 Cairo, C:16 with pictures Egypt, E:100, (Nile Valley and Delta) N:201 with picture Night of the Hunter, The work by Niemeyer, Sir Otto (British business-Agee Egypt, Ancient picture on, £120; [The manl Agee, James, A:158 Australia, History of (Combating the Night of the Iguana, The [play by Willand) E:120 depression (1930-1933)). A:820 liamsl See also Aswan High Dam Niépce, Joseph Nicéphore [French sci-Williams, Tennessee, W:258 Nile Valley entisti, N:202 Night parrot Egypt, E:111 with picture Communication (In the early 1800's), Parrot (Kinds of parrots), P:200 Nile River, N:219 Night Pieces [book by Hoffmann] Ci:231 World, History of the, W:334 Photography (Early developments), Hoffmann, Ernst Theodor Amadeus, Nile, Battle of the H:240 Nelson, Horatio, N:72

Night Shift book by King)

King, Stephen, K:255

Night terror

Antelope (Kinds of antelope), A:148

Nilgai

Nitrogen fixation

Nkosi Sikelel' iAfrika (hymn)

Nkrumah, Kwame [Ghanaian political

No Baby Must Weep [poetry by Serote]

No Cross, No Crown [book by Penn]

Penn, William (Persecution), P:258

No Highway (book by Shute)

Shute, Nevil, S:405

Serote, Mongane Wally, S:271

National Anthem, N:30

Ghana (History), G:147

leaderl, N:225

Nobelium, N:236

No [symbol]

Nio-Saharan language Nitrogen cycle, N:223 women), P:742 Africa (Black African languages), A:123 Nitrogen fixing bacteria Nirenberg, Marshall W. [American bio-Nitrogen (Nitrogen and life), N:222 Nilotes chemistl Africa (People), A:122 with picture Cell (The 1900's), C:304 Nilsson, Birgit (Swedish soprano), Nitrogen freezing Nirvana [religion], N:221 N:220 Food, Frozen, F:303 Bodhisattva, B:417 Nimbus Nitrogen monoxide Buddha (Buddha's death), B:614 See Cloud See also Nitrous oxide **Buddhism** (The Four Noble Truths), Nimbus isatellitel Nitric acid, N:221 B:615; (The wheel of life) B:616 Satellite, Artificial (Important satellites), Nitrogen narcosis (disorder) Dharma, D:151 5:96 Diving, Underwater (Dangers of un-Karma, K:195 Nimes [France] derwater diving), D:209 Religion (A doctrine of salvation), Aqueduct (Ancient aqueducts), A:485; Helium (Uses), H:138 with picture R:198 picture on A:486 Nitrogen oxide Religious life (Buddhism), R:209 World, History of the picture on, Air poliution, A:202 Nisan (month) Smog (Photochemical smog), S:500 W:339 Calendar (The Hebrew calendar), C:34 Nimitz, Chester William Nitroglycerin, N:223 Nisbet, Josiah [American admiral], N:220 Dynamite, D:365 Nelson, Horatio (Joins the Navy), N:71 World War II (The South Pacific), Glycerol, G:216 Nisei [people], N:221 W:397; (Island hopping in the Heart (Treatment), H:105 Nishiki-e [art] Central Pacific) W:398 Nobel, Alfred Bernhard, N:225 Harunobu, H:72 Nimitz (ship) See also Explosive Aircraft carrier (The modern carrier Nitroglycerol fleet), A:205 (History) A:205 See Louse Glycerol, G:216 Nithsdale [Scotland], N:221 Nimrod iOld Testamentl, N:220 See also Nitroglycerin Nitrate bacteria Nitrosamines Nitrogen cycle, N:222 Caravel, C:186 Bacon, B:18 Nitrate, N:221 Columbus, Christopher (First voyage Nitrous oxide, N:223 Sewage, S:283 westward), Cl:207 with picture Niue |Pacific island|, N:224 Nitrate of silver Nne-Power Treaty Nix (German folklore), N:224 See Silver nitrate Nixon, Richard [U.S. president], N:224 Washington Conference, W:63 Nitre Kennedy, John Fitzgerald (Early life), Nine-spotted ladybird See Saltpetre Beetle picture on, B:199 K:216 Nitric acid, N:221 President of the United States (table), Nine Stories (book by Salinger) Acid (inorganic acids), A:24 Salinger, J. D., S:51 P(769) Nitrogen (Nitrogen and life), N:222 Nineteen Counties Russia picture on, R:491 Nitric oxide Space exploration (Space shuttles), Squatters in Australia, So:248 Catalysis, C:255 1984 (book by Orwell) Nitrogen (Nitrogen and pollution), Orwell, George, O:507 United States, History of the (The N:223 **Ninety-Five Theses** 1970's), U:262 Nitrifying bacteria War Powers Resolution, W:37 Luther, Martin, L:419 Nitrogen cycle, N:223 Reformation (Martin Luther), R:181 Watergate, W:97 Niyazov, Saparmurad A. lTurkmen po-Nitrile Tetzel, Johann, T:166 Cyanide, Ci:508 Ninety Mile Desert [Australia], N:220 litical leader Nitrile rubber Turkmenistan (History), **T:468** Glppsland, G:164 Rubber, R:437 Niza, Marcos de ISpanish exploreri Ninety-Three (work by Hugo) Nitrite, N:221 Cibola, Seven Cities of, Ci:1 Hugo, Victor Marie (His works), H:344 Nitrite bacteria Nizhniy Novgorod (city, Russia), N:224 Nineveh [Assyrian Empire], N:220 Nitrogen cycle, N:222 Nkisi (figure sculpture) Assyria,, A:700 Nitrocarbonitrates |explosives| Sculpture (African sculpture), S:202 Library (Libraries of clay), L:229 with Dynamite (History), D:365 with picture picture Nitrocellulose Nkomo, Joshua iZimbabwe political Nahum, Book of, N:5 Guncotton, G:428 World, History of the (Middle Eastern leaderl Nitrogen, N:221 Mugabe, Robert Gabriel, M:683 civilizations), W:336 See also list of Related Articles Ninfale Fiesolano (work by Boccaccio) Zimbabwe (History), **Z:498**

Pregnancy (How pregnancy affects

Conservation (Soil conservation), Ci:293 Nitrogen cycle, N:223 Bacteria (Helpful bacteria), B:19 Nitrogen (Nitrogen and life), N:222 with picture Root (The importance of roots), R:394

Air (Gases of the air), A:183

Borazon, B:465

Boron, B:471

Boccaccio, Giovanni, B:417

Marsupial picture on, M:227

Niobe (Greek mythology), N:220

Mammal (Care of the young), M:133

Ning-po

Ningaul

See Ningbo

Ningbo [China], N:220

Treaty port, T:370

Columbite, Cl:205

Nipple (anatomy)

Breast, B:550

Noblum [element], N:220

with picture

Nitrogen dioxide Nitric acid, N:221

Nitrogen fertilizer Fertilizer, F:59

No Laughing Matter [book by Heller] Heller, Joseph, H:145 No Laughing Matter work by Wilson] Wilson, Sir Angus, W:261 No Longer at Ease (book by Achebe) Achebe, Chinua, A:23 No play [drama] Dancing (Oriental dancing), D:24 Drama (Japan), D:296 Japanese literature (The medieval period). 1:64 Mask (Theatrical masks), M:243 Music (Japanese music), M:735 Tokyo picture on, T:283 No Saddles for Kangaroos Inovel by De Boissiere De Boissiere, Raiph A. C., D:62 No Strings Imusic by Rodgers! Rodgers, Richard, R:331 No-till [farming technique] Conservation (Soil conservation), Ci:293 Erosion (Controlling erosion), E:323 NOAA [satellite] Satellite, Artificial (Important satellite), 5-36° Noah (Biblical figure), N:225 Deluge, D:100 Nobel, Alfred Bernhard (Swedish chemist, N:225 with portrait Dynamite (History), D:365 Gunpowder (History), G:429 Nitroglycerin, N:223 Nobel Prizes, N:225 with picture Nobelium, N:236 Peace (The 1800's and early 1900's), P:225 Nobel Prizes, N:225 with pictures Nobel, Affred Bernhard, N:225 Nobelium (element), N:236 Nobility [society], N:236 See also list of Related Articles **Noble Eightfold Path** Bodhisattva, B:417 Buddhism, B:616 Dharma, D:151 Nirvana, N:221 Noble gas, N:237 Element, Chemical (How to use the periodic table), E:200; diagram on Helium, H:143 Ramsay, Sir William, R:132 Noble Numbers (poetry by Herrick) Herrick, Robert, H:182 Nobody Knows My Name book by Baldwin] Baldwin, James, B:39 Noctovision Baird, John Logie, B:33 Noctule Bat (Evening bats), B:148 Nocturnal animals, N:237 Nocturne in Black and Gold-The Falling Rocket [painting by Whistler]

Whistler, James Abbott McNeill,

Nocturnes [music by Debussy]

Debussy, Claude, D:63

W:230

Noddack, Walter [German scientist] Rhenium, R:250 Node Grass (The grass plant), G:301 Plant (Sterns), P:554; picture on P:553 Stem. So:314 **Nodes of Ranvier** Nervous system (Conduction along the axon), N:84 Nodule [botany] Alfalfa (As a cover crop), A:247 with picture Legume, L:157 Nodule (physiology) Rheumatic fever (Causes and symptoms), R:251 Noel-Baker, Lord (British public figure), N:237 Nobel Prizes (Peace), N:234 Noguchi, Isamu [American sculptor], N:237 Noise, N:237 Acoustics, A:25 Deafness (Environmental factors), D:56 Insulation (Insulation against sound), 1.270 Sound, So:47 See also Decibel Noise pollution Acoustics (Environmental acoustics), A:26 Airport (Airport problems), A:216 Environmental poliution (Noise pollution), E:305 Sound (Controlling sound), So:52 Nok iAfrican historyl, N:238 Nigeria (The arts), N:210 Pottery (Early pottery), P:724 Sculpture (African sculpture), S:202 Nolan, Sir Sidney [Australian painter], N:238 Australia, Art and architecture of picture on, A:784 Nomad, N:238 See also list of Related Articles Africa (Rural life), A:128 Algeria (The Sahara), A:264 Asia (Country life), A:631 Egypt (Population), E:108 Iran picture on. 1:336 Iraq (Rura) life), 1:344 Jammu and Kashmir (History), £27 Kyrgyzstan (People), K:348; (History) K:350 Mali (People), M:114 with picture Niger (People), N:203 Nomarch Egypt, Ancient (Government), E:127 Egypt, Ancient (Government), E:127 Nominal (grammar) Noun. N:309 Nominative case Case, C:225 Non-Euclidean geometry Geometry, G:97 Nonaggression pact, N:238 Communism (World War II), Ch241 Russia (World War II), R:491

See also League of Nations; United No. Nonaligned movement Third World, T:220 Nonballistic missile Guided missile (Nonballistic missiles C:409 Nondiscrimination General Agreement on Tariffs and Trade (GATT), G:76 Nondramatic ballet Ballet picture on, B:57 Nondurable goods Industry (Other systems of classification), 1:224 Manufacturing (Kinds of manufacturing), M:167 Nonexecutive president President, P:766 Nonferrous alloy Alloy (Alloys of iron), A:278 Nonfiction Fiction, F:69 Literature (Forms of literature), L313 Writing, W:422 Nonfiction novel Novel (The novel today), N:314 Nonhomeostatic motive Motivation, M:649 Nonhormonal dwarfism Dwarf, D:361 Noninfectious disease Disease, D:193 with picture Nonmagnetic material Magnetism (Kinds of magnets), MdS Nonmaterial culture Cultural lag, Ci:489 Culture (Forming patterns), Chief Nonmetal Element, Chemical diagram on, E156 Metal (What metal Is), M:374 Nonmigratory trout Fishing (Game fishing), F:185 Nonmilitary sanction International relations, 1:294 Nonparticipating policy Insurance (Dividends), 1:273 Nonpartisan election Primary election, P:777 Nonpoint source pollution Environmental pollution, E300 Nonprofit institution Economics (Business and profits), Bal Nonproliferation Nuclear weapon, N:339 Nonproliferation of Nuclear West ons, Treaty on the Disarmament (History), D:186 Nonproliferation treaty Disarmament (History), D:186 Nuclear energy (The spread of nuclear capability), N:330 Nuclear weapon, N:339 United Nations (Arms control), L179 Nonrenewable resources Conservation, Ci:292 Industry (Natural resources), 1:221 Nonrepresentational art Sculpture (As artistic expression),

5:189

Nonresistance

Pacifism, P:17

Nonreturning boomerang

Australian Aborigines (Boomerangs), A:836

Nonscheduled flight

Aviation (Airline operations), A:879

Nonselective pesticide

Pesticide (Pesticides and the environment), P:319

Nonsense verse

Nursery rhyme (Nonsense rhymes), N:353

Nonsporting dog

Dog (Nonsporting dogs), D:235 with pictures

Nonstandardized test

Testing (Standardized tests), T:163

Nonstore retailing

Retalling, R:244

Nonvascular plant

Plant, P:570 with pictures

Nonverbal behavlour

Kinesics, K:253

Nenverbal communication

Communication (The study of nonverbal communication), Ci:237

Nonverbal test

Intelligence quotient (Problems of intelligence testing), I:277

Testing (Interpreting test scores),

T:164

Nonviolent action (philosophy)

Pacifism. P:17

Nonviolent resistance

Gandhi, Mohandas Karamchand, G:27 India, History of (Gandhi and the satyagraha campaign), 1:116

King, Martin Luther, Jr. (Early civil rights activities), K:253

Pacifism, P:17

Nonvolatility

Evaporation (How evaporation occurs); (Uses of evaporation), E:403

Nonwoven fabric

Textile (Nonwoven fabric), T:172

Noon

Day, D:51

Hour, 14:321

Time (Measuring time by the sun), T:256; (Measuring time by the stars) T:256; (Local and standard time) T:257

Noonan, Michael J. Ilrish political

leader), N:239

Nopal

See Prickly pear

Noradrenaline

Adrenal gland, A:57

Brain (The brain's chemical messengers), B:516

Hormone (Stress hormone), H:278

Mental Illness (Chemical imbalances), M:353

Nordenskjöld, Nils Adolf Erik |Swedish explorerl, N:239

Arctic (Arctic exploration), A:544

Arctic Ocean (Exploration of the Arctic

Ocean), A:548; map on A:547

Exploration (table), E:427

Nordhoff, Charles Bernard [American

authorl Nordhoff and Hall, N:239

Nordhoff and Hall, N:239

Nordic skiing

Olympic Games table on, 0:437

Skiing, S:462

Nore [freland], N:239

Norepinephrine

See Noradrenaline

Norfolk (England), N:239 with picture and map

Arms picture on, A:586

Norfolk [U.S.A.], N:241

Norfolk Broads (England)

Norfolk (Places to visit), N:241 with picture

Norfolk Island (Australia), N:242 with picture

Australia, History of picture on, A:800 Phillip, Arthur (To Port Jackson), P:416

Norfolk system (agriculture)

Agriculture (Improved crop-growing methods), A:173

Invention (The Industrial Revolution), 1:317

Norfolk terrier, N:242 with picture

Norfolk (ship) Bass and Flinders (Other voyages),

Norgay, Tenzing

Mount Everest, M:657 with picture

Norge (airship)

Airship (Between world wars), A:219 Amundsen, Roald (Other achievements), A:347 with map

Norhelm, Sondre

Skling (The development of modern skiing), S:467

Noti

Algae (Red algae), A:250

Norlega, Manuel Antonio (Panamanian political leaderl, N:243

Panama (Panama today), P:120

Norm-referenced test

Testing (Achievement tests), T:163

Normal distribution

Statistics (Probability), So:303

Normal heptane

Petrol (Petrol octane ratings), P:329 Norman, Greg [Australian golfer], N:243

Golf (table), G:248; (Beginnings) G:250 Norman, Lilith [Australian author],

N:243

Norman architecture, N:243 with pic-

Architecture picture on, A:525 England (The arts), E:269

Norman Conquest, N:243

England, E:275 with picture English language (Middle English),

E:281

Hastings, Battle of, H:75

Ireland, History of (The Normans in Ireland), I:370

Kings and queens of Britain and Ireland, K:262

United Kingdom, History of the, U:131 with picture

William I, the Conqueror, W:255

Normandy, Duke of

See William I, The Conquerer

Normandy, N:244

France picture on, F:404 Vikings (The Danish Vikings), V:392

World War II (D-Day), W:392 with map

Normandy Invasion [1944]

Army (table), A:593; (Armies In the two world wars) A:595

Canada, History of picture on, C:104 D-day, D:2 with picture

Eisenhower, Dwight David (Military career), E:132 with picture

World War II (D-day), W:392 with pictures and map

Normans (people), N:245

Norman Conquest, N:243

Vikings (The Danish Vikings), V:392

Norns (Scandinavian mythology), N:245 Mythology (The construction of the world), M:761

Norodom Sihanouk (Cambodian political leaderl, N:245

Cambodia (History), C:46

Royal families (Cambodia), R:420

Norris, Frank (American writer), N:245 American literature (Naturalists), A:315

Norse mythology

Mythology (Teutonic mythology), M:761

Norsemen

Normans, N:245

Vikings, V:387

North, Christopher

Scottish literature (1800-1900), S:176

North, Lord British political leaderl, N:245

North America, N:246 with pictures and maps

See also list of Related Articles Agriculture, A:170

Bird (Birds of North America), B:328; (Endangered species) B:357

Christmas, C:489

Conservation, Ci:301

Football, Association, F:334

Mountain, M:667

National parks, N:42 with picture Pacific Ocean (Boundaries and size),

P:14 Prehistoric animal (The distribution of

mammals), P:748 Prehistoric people (The spread of set-

tlement), P:758 Seven Years' War (in America), S:282

North American Free Trade Agree-

ment (NAFTA) Common market, Cl:221

North American robin

Robin, R:302

North American wood anenome Wood anemone, W:301

North Asia

Asia (Way of life In North Asia), A:642 with picture and map; (Land regions) A:644; (Climate) A:648 with

Arunachal Pradesh (History), A:617

Germany (The unification of Germany),

North Equatorial Current

North German Confederation

See Gulf Stream

maps G:133 North West Rebellion, N:265 **North Atlantic Council North German Plain** Canada, History of, C:101 North Wiltshire [England], N:263 North Atlantic Treaty Organization, Germany, G:124 with picture N:258 with picture North Hertfordshire [England], N:261 **North Yemen** Yemen (Formation of Yemen (Sana) North Atlantic Current North Island Arctic Ocean (Currents), A:548 New Zealand, N:158 North Yorkshire [England] **North Atlantic iceberg** North Kesteven [England], N:261 Iceberg, 1:17 with picture North Korea See Yorkshire Northampton [England], N:265 North Atlantic Marine Mammal Com-Korea, K:318 with pictures and map Northamptonshire (England), N:265 mission (NAMMCO) Korean War, K:330 Whale (The future of whales), W:213 with picture and map North magnetic pole **North Atlantic Treaty** Magnetic equator, M:51 See also list of Related Articles International relations (Treaties), 1:294; Magnetism (The magnetism of the Arms picture on, A:586 Northanger Abbey (book by Austen) (The Cold War begins)1:295 earth), M:57 North Atlantic Treaty Organization North Pole, N:261 Austen, Jane, A:748 (NATO), N:258 North Norfolk (England), N:261 Gothic novel, G:264 **North Atlantic Treaty Organization** North Pole, The (book by Peary) Northavon (England), N:267 (NATO), N:258 Peary, Robert Edwin (Dispute over Northcliffe, Viscount British journa-Balkans (After World War II), B:44 Peary's claim), P:238 istl, N:267 Canada, History of (Increasing foreign North Pole, N:261 Harmsworth, Alfred Charles William, involvementi, C:104 See also list of Related Articles H:63 Cold War (Beginnings of the Cold Amundsen, Roald (Other achieve-**Northeast Passage** War), Cl:160 ments), A:346 with map Amundsen, Roald (Other achieve-Communism (The Cold War), Cl:242 ments), A:346 with map Arctic Ocean (Ice), A:548 Arctic Ocean (Arctic exploration), Elsenhower, Dwight David (Military ca-Cook, Frederick Albert, Ch325 reer). E:132 Earth picture on, E:17; (The earth's A:544 Europe (The Cold War), E:391 magnetism) E:21 **Northeast Region** Flag picture on, F:210 Midnight sun, M:458 Brazil, B:538 France (France under de Gauile), F:416 North Star, N:263 Northeastern Plateaus Germany (Armed forces), G:118 Peary, Robert Edwin, P:237 France, F:404 Germany (West Germany), G:138; (The Norther (weather), N:267 North pole [magnetism] Northern Cape | South Africal unification of East and West Ger-Magnetism (Magnetic poles), M:55 many) G:139 N:267 with map with diagram; (Electromagnets) Greece (Politics), G:333; (The 1950's) M:56 with diagram South Africa, So:55 G:344 North River Steam Boat [ship] **Northern Deserts** Iceland (Recent developments), 1:24 Saudi Arabia, S:107 Ship (The Clermont), \$:371 Northern development in Australia International relations (Treaties), 1:294 North Sea, N:262 with picture and map Marshall, George Catlett, M:226 Petroleum (Petroleum industry), P:350 N:268 with map Norway (Postwar developments), Northern Flat Plains United Kingdom (Natural resources), N:301 Denmark, D:114 U:59 with picture Northern France Plains Spaak, Paul-Henri, So:127 North Shropshire (England), N:263 Stalin, Joseph (The Cold War), So:269 France, F:404 North Star [astronomy], N:263 with pic-Truman, Harry S. (Second administra-Northern Hemisphere Astronomy (The sky at different lath tion), T:427 Astronomy (Why the stars seem to tudes), A:688; diagram on A:686 Warsaw Pact, W:42 move), A:688 Climate (Differences in the surface of Western European Union (WEU). Equator, E:314 the land), Ci:80 W-TRA Pole, P:637 Hemisphere, H:148 with diagrams North Bedfordshire Star (Measuring direction and posi-Ocean (Currents), 0:394 See Bedford Borough tion), So:283; (Pulsating variables) Season, S:229 with diagram North Berwick (Scotland) So:285 Lothian Region (Places to visit), L:396 Winter, W:276 Ursa Major and Ursa Minor (Ursa North Carolina [U.S.A.], N:259 Northern High Plains Major), U:278 United States, History of the (The Vega, V:320 Nigeria, N:210 Southern Colonies), U:239 North Tyneside (England), N:263 Northern Highlands North Cornwall (England), N:260 Hungary, H:378 Northern Ireland, N:269 with pictures North Vietnam North Dakota [U.S.A.], N:260 Geneva Accords, G:82 North Devon (England), N:261 and maps Ho Chi Minh, H:233 See also list of Related Articles North Dorset (England), N:261 Arms (Arms of Northern Ireland) plc Indochina (The Geneva Accords), 1:181 North Down [Northern Ireland], N:261 Vietnam, V:374 tures on, A:588 North Downs [England] Vietnam War, V:383 with map Belfast, B:211 with picture and map Kent (Land regions), K:221 **North Warning System** Orangemen, 0:484 Parliament (The House of Commons) North East Derbyshire [England], N:261 Radar (Air defence), R:55; (How radar North East Fife [Scotland], N:261 works) R:58; picture on R:56 Social Democratic and Labour Party North Eastern Frontier Tract North Warwickshire [England], N:263

North West [province, South Africal.

North West Leicestershire [England],

N:263 with picture

South Africa, So:55

NI265

United Kingdom, U:42 with picture (SDLP), So:3

Northern Ireland Bill

Northern Ireland (Government), N250

Northern Ireland General Certificate of Education

General Certificate of Education (GCE), G:76

Northern Jezabel

Butterfly picture on, B:683

Northern kingfish

Kingfish, K:256 with picture

Northern Lake [painting by Thomson]

Thomson, Torn, T:224

Northern lights [air]

Air (Structure of the atmosphere), A:186

Aurora, A:747 with picture

Northern Limestone Alps

Austria, A:862

Northern Mariana Islands, Commonwealth of the, N:276 with map

Northern Mountains

Spain, So:176

Thailand, T:182 with picture

Northern ortole

Bird picture on, B:329

See also Oriole

Northern Peninsulas

New Zealand, N:158

Northern pike

Fish picture on, F:166

See also Pike

Northern Plains

Afghanistan, A:113

India (The Northern Plains), 1:67 with map 68

Northern prickly ash

Prickly ash, P:775

Northern Province (South Africal, N:277 with map

Pietersburg, P:490

South Africa, So:55

Northern Rhodesia

Rhodesia and Nyasaland, Federation of, R:256

Zambia, Z:487; (History) Z:488 Zimbabwe (History), Z:496

Northern Rockles

Rocky Mountains (Chief ranges of the Rockies), R:327

Northern Territory, N:278 with pictures and maps

See also list of Related Articles

Northern Territory (Self-

Government) Act

Northern Territory (Government),

^{Northern} Ukrainian Upl<mark>and</mark> Ukraine, U:9

Northurn white-cedar

Arborvitae, A:497

Northmen

Vikings, V:389

Northumberland [England], N:286 with

picture and map

Arms picture on, A:586

Northumberland, Duke of

Kings and queens of Britain and Ireland (The Tudors), K:271

Northumbria lancient kingdoml, N:288

Heptarchy, H:158

Kings and queens of Britain and Ire-

land, K:260

Northward over the Great Ice book

by Pearyl

Peary, Robert Edwin, P:237

Northwest

Western Australia, W:177 with picture

Northwest Airlines [airline]

Airline (table), A:208

Northwest Mountains

Europe (Land regions), E:371 with pic-

Northwest Ordinance [1787], N:288

Northwest Passage, N:289 with pictures and map

See also list of Related Articles

Exploration (Exploring the New World), E:421; (The search for a

northern passage) E:422; (Polar exploration) E:427 with map

Northwest Territories [Canada], N:290

Canada (The territories), C:76

Fugitive slave laws, F:480

Northwest Territory [U.S.A.], N:290

Norway, N:291 with pictures and maps See also list of Related Articles Aviation (Aircraft nationality marks),

A:881

Christmas, C:490

Europe (table), E:359

Flag picture on, F:209

Oslo, 0:510 with pictures

Royal familles, R:420; picture on R:419 Sweden (Union with Norway and Denmark), So:473

Trondheim, T:413

Whale (The future of whales), W:213

Norway maple

Maple, M:192 with pictures

Norway rat

Rat (The body of a rat), R:141

Norway spruce Spruce (Kinds), So:242 with picture

Tree pictures on, T:386

Norwegian elkhound, N:302 Dog picture on, D:228

Norwegian Folk Tales book by

Asbjørnsen] Asbjørnsen, Peter Christen, A:619

Norwegian saltpetre Saltpetre, 5:58

Norwich (England), N:303 Norfolk (Places to visit), N:241

Norwich terrier, N:303

Nose [anatomy], N:303 with diagrams See also list of Related Articles

Nose bot fly Bot fly, B:478

Nosebleed, N:304

Bleeding (First aid for external bleeding), B:386

First aid, F:147

Noseleaf

Bat (Head), **B:146**

NOSS (satellite)

Satellite, Artificial (Important satellites), 5:96

Nostradamus [French astrologer], N:304

Nostrii

Nose, N:303

Nostromo (book by Conrad)

Conrad, Joseph, Ci:290

Novel (New directions in the novel), N:313

Not in the Calendar (book by Kennedy) Kennedy, Margaret, K:218

Notary public (law), N:305

Notation, N:305

Music (Musical notation), M:731 with diagrams

Note [commerce]

See Promissory note

Note [music]

Music (The elements of music), M:729 Notebooks of Maite Laurids Brigge,

The [poetry by Rilke]

Rilke, Rainer Maria, R:277 Notebooks of Thomas Wolfe, The

[book by Wolfe]

Wolfe, Thomas Clayton, W:287

Notepad [computing]

Encyclopedia (New types of encyclopedia), E:237

Notes from the House of the Dead [novel by Dostoevsky]

Dostoevsky, Fyodor, D:271

Notes from Underground Inovel by Dostoevskyl

Dostoevsky, Fyodor, D:271

Notes of a Film Director film by Eisen-

Eisenstein, Sergei Mikhallovich, E:135

Noticeboard (computing)

Encyclopedia (New types of encyclopedia), E:237

Notochord

Amphioxus, A:343

Chordate, C:480 Notornis [bird], N:305

Notre Dame Cathedral Cathedral (Architectural history), C:264

Notre-Dame-la-Grande (France) Romanesque architecture picture on,

R:34B

Notre Dame, Cathedral of [Paris], N:305 with picture

Paris (Famous buildings), P:180 Notre Dame, Cathedral of [Reims]

Reims, R:189 with picture Nottingham (England), N:306 with pic-

Nottinghamshire (Places to visit), N:307 with picture

Nottinghamshire [England], N:306 with

picture and map

Arms picture on, A:586 Nouakchott (Mauritanial, N:309

Noughts-and-crosses

Addition (Fun with addition), A:36

Nouméa (New Caledonia)

New Caledonia picture on, N:108

Noun, N:309

See also list of Related Articles

Case, C:225

French language, F:443 Gender, G:74

irish language, 1:380

Italian language, I:443

Number Igrammari, N:343
Spanish language, So:192
Welsh language, W:148
оиуеац готал
Novel (After World War II), N:314
ova, N:310
Astronomy, A:685
Binary star, B:296
Star (Star terms), So:280; (Exploding
stars) So:285
See also Supernova
ova explosion
Nova, N:310
Supernova, So:428
ova Scotia (Canadal, N:310 with pic-
ture
Atlantic Provinces, A:721 with picture
ovaculite
Whetstone, W:227
ovalis (German poet), N:310
lovaya Zemlya lislandsl, N:310
lovel (literature), N:311
See also list of Related Articles
American literature (The romance),
A:314
Australia, Literature of (The develop-
ment of the novel), A:830; (Novels)
A:832; (Modern novels) A:832
French literature (The 1900's), F:450
Writing (Fiction), W:422
lovel of manners
American literature (Mark Twain and
Henry James), A:316
lovello, Ivor (British composer), N:314
lovember (month), N:315 with pictures
Calendar (Ancient calendars), C:35
ioverre, Jean Georges (French chore-
ographer)
Ballet, B:55
Dancing (The 1600's and 1700's), D:26
lovgorod [city, Russia], N:317
lovi Sad, N:317
Serbia, S:266
lovial
Universal language, U:265
iovocain
See Procaine
lovosibirsk (Siberia), N:317
lovotný, Antonín [Czech political
leader]
Czechoslovakia (Communist rule),
Ci:524
lovum Organum [book by Bacon]
Bacon, Francis, B:18
Philosophy (Modern philosophy),
P:424
low, Voyager[film]
Davis, Bette, D:46
low and Then: Poems 1976-1978
[work by Warren]
Warren, Robert Penn, W:40

Now I Remember: Autobiography of

Burgess, Thornton Waldo, B:650

Noyce, Robert (American physicist)

Invention (Recent developments),

Burgessl

Iran (Recreation), I:337

Now Ruz

an Amateur Naturalist (book by

1:320 Noye's Fludde (work by Britten) Britten, Benjamin, B:582 Noyes, Alfred (British poet), N:317 Np (symbol) Neptunium, N:79 NSPCC, N:317 Ntaryamira, Cyprien (Burundi political leader Burundi (History), B:666 Nu, U [Burmese politician], N:317 Burma (Independence), B:661 Nubia lancient Africal, N:317 Africa (The influence of Christianity), A:149 Nublan goat Goat (Domestic goats), G:221; picture on G:223 Nubians (people) Africa (Other groups), A:122 Egypt (Population), E:108 **Nuclear body** Bacteria (The structure of bacteria), B:20 **Nuclear** bomb Bomb, B:435 See also Nuclear weapon Nuclear chain reaction U-235, U:2 Nuclear energy, N:318 with pictures See also list of Related Articles E = mc2, E:2 Electric power (Nuclear power station), E:159 Energy (Forms of energy), E:245 Energy supply, E:248 Fission, F:195 Fusion, F:509 Heat. H:116 International Atomic Energy Agency (IAEA), 1:288 Laser (Heating), L:71 Perpetual motion machine, P:288 Physics (Uncovering the secrets of the atom), P:478 Rickover, Hyman George, R:272 Ship (Nuclear power and automation), 5:373 Submarine (The power plant), So:370 United Nations (Peaceful uses of nuclear energy), U:172 **Nuclear engineering** Engineering, E:258 **Nuclear family** Africa (marriage and the family), A:127 Family, F:19 with picture; (The nuclear family) F:21; (The family in West-

ern culture) F:22

See Grand unified theories

Fuel, F:478; (Nuclear fuels) F:478

Nuclear energy (Fuel preparation),

Nuclear magnetic resonance (NMR)

Nuclear fission

See Fission

Nuclear force

Nuclear fuel

Nuclear fusion

See Fusion

Nuclear membrane [biology] Cell (The nucleus), C:294 with diagrams; (Membranes) C:295 Life (Cells), L:247 Nuclear Nonproliferation Treaty Nuclear weapon (Non-proliferation), United Nations (Arms control) 1479 **Nuclear particle detector** Instrument, Scientific, 1:268 Nuclear physics, N:332 Atom (Studying the nucleus), A:730 Nuclear energy (The beginning of nuclear physics), N:329 Physics, P:473 Science (Physics), \$:140 Nuclear power See Nuclear energy Nuclear power station Electric power, E:159; (Early developments) E:161 Nuclear energy (The role of nuclear energy in power production), United Kingdom (Electric powerl, US) Nuclear radiation Nuclear energy, N:318; (Radioactive decay) N:321 Nuclear weapon (Effects of nuclear weapons), N:337 Nuclear reaction Isotope (Artificial radioisotopes), 1421 Nuclear energy (The science of nuclear energy), N:320 Transmutation of elements, T:344 Nuclear reactor, N:332 with pictures See also list of Related Articles Electric power (Nuclear power six tions), E:159 Energy supply (Nuclear energy), E248 Nuclear energy, N:318 with picture (The role of nuclear energy in power production) N:319 Rocket (Nuclear rocket), R:321 with picture Uranium (Radioactivity and fissional) ity), U:273 Nuclear rocket Rocket, R:321 with picture Nuclear shell model Atom (Forces in the nucleus), A:727 Navy (The birth of nuclear age navies). Nuclear ship Ship (Nuclear power and automation) Warship (Warships in the nuclear agel, W:46 Navy (The birth of nuclear age navies) Nuclear submarine

Submarine, So:372; (The power plant

Warship (Warships in the nuclear age)

Magnetic resonance Imaging, MS2

isotope (Uses of radioisotopes), 1422

Medicine (The specialities), M:311 Radioactivity (In medicine), R:89

Nuclear medicine

Numerical forecasting

W:46 Meteorology (How meteorologists Electricity (Kinds of electricity), E:166 Nuclear testing study the atmosphere), M:382 Electron, E:178 Bikini Atoll, B:291 Numerology, N:350 Element, Chemical (The Periodic Nuclear war Fortunetelling, F:366 Table), E:196 Civil defence, Ci:39 Numidia (ancient Africa), N:350 Nuclear energy (Atoms and nuclei), Nuclear weapon, N:335 **Numismatics** N:320 Nuclear winter, N:341 Coin collecting, Cl:155 with pictures Nuclear physics, N:332 Nuclear warhead Physics (Nuclear physics), P:473; (Un-Numismatist Nuclear weapon (Strategic nuclear Coin collecting, Ci:155 covering the secrets of the atom) weapons), N:338 Nummulite [fossil], N:350 P:478 Nuclear waste Nummulitic limestone Nuclear energy (Wastes and waste dis-Radioactivity, R:87 Ooze, 0:454 Rutherford, Ernest, R:505 posal), N:326 Nun Ireligioni, N:350 Nude Descending a Staircase, No. 2 Nuclear weapon, N:335 with picture See also list of Related Articles [painting by Duchamp] See also list of Related Articles Address, Forms of, A:41 Duchamp, Marcel, D:336 with picture Atom (Studying the nucleus), A:730 Jainism (Monks and nuns), J:11 Nuer [people], N:341 Commonwealth of Independent Nun, The (book by Diderot) Anthropology (Linguistic anthropol-States, Cl:223 Diderot, Denis, D:167 ogy), A:451 Kennedy, John Fitzgerald (Disarma-Nun buoy Sudan (People), So:381 ment), K:217 Buoy, B:647 Nuevo Laredo [Mexico], N:342 Navy (The birth of nuclear-age navies), Nuncio (diplomat) Nuffield, Lord (British industrialist), Pope (The powers of the pope), P:673 N:342 with portrait Nuclear energy (The development of Nuneaton and Bedworth [England], nuclear weapons), N:329 N:351 Set theory (Empty sets), S:275 United Nations (Peaceful uses of nu-Nunes, Pedro (Portuguese navigator) Nulla nulla, N:342 clear energy), U:172 Great-circle route, G:317 Nullarbor Plain (Australia), N:342 Nuclear Weapons and Foreign Policy Nunmati Refinery Australia.with picture A:760 (The (book by Kissinger) Assam (Economy), A:669 Western Plateau), A:763 Kissinger, Henry Alfred, K:290 Nurek Dam South Australia, So:110 with picture Nuclear winter, N:341 Dam (table), D:13 Western Australia, W:179 Nuclear weapon (Thermal radiation), Tajikistan (Economy), T:14 Numbat, N:342 N:337 Nuremberg (Germany), N:351 Number (grammar), N:342 Nucleic acid, N:341 Bavaria, B:160 Noun. N:309 See also list of Related Articles Germany picture on, G:137 Number and numeral, N:343 Nuremberg Pharmacopoeia (book) Human body (Chemical elements and Algebra (Positive and negative nummolecules). H:350 Pharmacopoeia, P:358 bers), A:254 Life, L:249 Nuremberg Trials, N:351 Arabic numerais, A:488 Nucleoid (biology) Germany (Occupied Germany), G:137 Arithmetic (Numeral systems), A:570 International law (Punishment), 1:292 Cell (Bacteria), C:295 with pictures Nucleolus Kellogg-Briand Peace Pact, K:212 Flag pictures on, F:215 War crime (World War II), W:35 Cell, C:295 Gupta dynasty (Cultural life under the Nucleon Nureyev, Rudoif (Russian-born bailet Guptas), G:430 dancerl, N:351 with picture Baryon, B:122 Integer, 1:275 AIDS (Public awareness), A:181 Nucleotide Maya (Communication and learning), Fonteyn, Dame Margot, F:292 with Evolution (Recent developments), M:279 picture Numeration systems, N:344 Heredity (The structure of DNA), H:170 Nurl as-Sald Roman numerals, R:346 Life (Nucleic acids), L:249 See Said, Nuri as-Set theory (In arithmetic), S:276; (His-Nucleus [astronomy] Nurmi, Paavo, Eric tory) S:277 Olympic Games (The modern games), Comet, Cl:215 Number One [novel by Dos Passos] Solar system (Comets), So:27 0:435 Dos Passos, John, D:271 Nucleus (biology) Nurmi, Paavi Johannes (Finnish run-Number theory [mathematics], N:343 Amoeba, A:338 ner], N:352 Fermat, Pierre de, F:54 Athletics (The early and mid-1900's), Bacteria (The structure of bacteria), Numbers, Book of (Old Testament), Blood (Red blood cells), B:393 N:343 Olympic Games (The modern games), Pentateuch, P:266 Cell, C:292; (The nucleus) C:294 with 0:435 Numeral diagrams Nurse See Number and numeral Heredity (The structure of chromo-Numeration systems [mathematics], See Nursing somes and genes), H:166 Nurse [entomology] N:344 with pictures Life (Cells), L:247 Insect. I:257 See also list of Related Articles Magnetism (Magnetism in atoms), Nurse shark Arithmetic, A:570 M:56 Shark, S:333 Nucleus [physics] Numerator Nursery (agriculture), N:352 Arithmetic (Common fractions), A:572 Atom (The parts of an atom), A:724 Nursery colony Fraction (In symbols), F:384 Bat (Reproduction), B:148 with picture; (Forces in the nu-Numerical control Nursery rhyme [poetry], N:352 with piccleus) A:727; (Studying the nu-

Automation (During the 1900's), A:875

Machine tool, M:18

ture

cleus) A:730

Cosmic rays (Galactic cosmic rays),

Nursery school, N:354 with picture Day care (Types of day care for children). D:51 Farly childhood education, E:14 United Kingdom, Educational systems of the, U:95 Nursina (feeding) Animal (Providing food), A:406 Nursing [profession], N:355 with pictures See also list of Related Articles Medicine, M:306 with pictures Nursing home, N:358 Medicine, M:309 Nusantara lislands, Indonesial, N:359 Nut (Egyptian goddess) Mythology (The Great Ennead), M:754 Nort (fastener) Bolt. B:432 Nut [food], N:359 See also list of Related Articles Filbert, F:79 Hazel tree, H:92 with picture Hickory, H:189 Nutation (astronomy) Bradley, lames, B:506 Nutcracker, The |ballet| Ballet (Original music), B:53 Dancing (The rise of romanticism). Tchaikovsky, Peter Ilich, T:76 Nuteracker (bird), N:360 Nuthatch, N:360 Bird picture on, B:328 Nutmeg, N:361 with picture Mace. M:8 Nutria (rodent), N:361 with picture Fur (table), F:488 Nutriculture See Hydroponics Agriculture (Commercial farming), A:163 Ecology, E:55 Environment, E:298 Environmental pollution (Water pollution), E:303 Fertilizer, F:59 with picture Food (How the body uses food), F:295 Food supply (Basic human food needs), F:310 Gooseberry, G:255

Nutritional supplement Nutritionist Nutting, Mary Adelaide (Canadian-Nuyts, Peter [Dutch explorer]

Nutritional disease

Food additive, F:304

See Nutrition: Food

horn nursel N:369

Dutch explorers, D:359

Tanzania (Population and ancestry),

Jammu and Kashmir (Plants and ani-

Rhodesia and Nyasaland, Federation

Hinduism (The six schools of philoso-

India, Philosophy of (Orthodox sys-

Nye, Bill (American humorist), N:369

velopments) T:36

Balloon (Hot-air balloons), B:62

Rope (Synthetic-fibre rope), R:394

Fibre (Manufactured fibres), F:67

Insect (Growth and development),

Mythology (Greek divinities), M:757

Cicada (Development), Ci:1

Nymph (mythology), N:370

Textile (table), T:170: (Manufactured

Nverere, Julius Kambarage (president

of Tanzanial. N:369 with portrait

Tanzania (Independence), T:36: (The

united republic) T:36: (Recent de-

T:32; (The development of trade)

Nyame (African god)

Ashanti, A:620

Nvamwezi [people]

T-25

mals), 1:26

Malawi (History), M:80

Zimbabwe (History), Z:496

of. R:256

phy), H:210

tems). 1:132

Nyava (philosophy)

Nylon, N:369

Nylon fibre

Nymph [insect]

Dragonfly, D:279

1:254

Dionysus, D:183

Nystagmus, N:370

Nzinga a Nkuwa, N:370

Larva, L:66

Polymer, P:661

fibres) T:170

See Lake Nyasa

Nvan (animal)

Nyasa, Lake

Nvasaland

Disease, D:194

Heart (Coronary artery disease), H:104 Plant (Nutrient deficiencies), P:567 Water pollution (Effects), W:89 See also list of Related Articles

O [letter], 0:371 O. Henry See Henry, O. O Pioneers! [book by Cather] American literature (Realist fiction), A:318

O ring Space exploration (The Challenger disaster). So:160 Oadby and Wigston [England], 0:379 Oahu lislandl Hawaii (Land), H:80 Oak, 0:372 with pictures Forest (Forest succession), F:351

Live oak, L:333 with pictures Plant (How plants protect themselves). P-568 Tree pictures on, T:385 Wood nicture on W:299 Oak Apple Day, 0:374

Oakland [U.S.A.], O:374 Oakley, Annie (American sharpshooter), 0:375 Oakum lfibrel. 0:375 OAO isatellitel Satellite, Artificial (Important satellites),

Oak Ridge National Laboratory

0:374

noir

6.96 Rowing, R:414 Oarfish, 0:375 Fish picture on, F:164 Oarsmen at Chatou [painting by Re-

Renoir, Pierre Auguste, R:222 Oasis, 0:375 with picture Desert (Desert land and climate), D:131 Merv. M:369 Sahara (Land and climate), \$:19 with picture **Dast house**

Kent picture on, K:220 Oatcake |food| Scotland (Food and drink), S:161 Oates, Joyce Carol (American author) 0:376 American literature (Fiction and other

prose), A:320 with portrait Oates, Lawrence Edward Grace Both ish explorerl, 0:376 Oates, Titus (English religious leader), O:376

Popish Plot, P:681 Oath [law] Perjury, P:284 Witness, W:283 Oath of the Horatii, The ipainting by

David] David, Jacques Louis, **D:45** Painting (Neoclassicism), Page with plo

Oath of the Tennis Court, The paint ing by David

David, Jacques Louis, D:45 Oatmeal, 0:376 with picture Scotland (Food and drink), S:161 Oats, O:376 with pictures

Grain (Kinds), G:285 Grass (Kinds of grasses), G:304 Horse (Food), H:298 Leaf picture on, L:126

Surgery (Some common surgical oper **Oöphorectomy** ations), So:438

Fat, F:33 Health, H:94 Milk (Food value of milk), M:465 Teeth (A good diet), T:92

Disease (Nutritional diseases), D:194

Health (Nutrition), H:94

Nutrition, N:362 with pictures

Cancer (In nutrition), C:123 Circulatory system (In nutrition), Cl:8

Milk, M:466

Pork, P:691

Soil, So:20

Nutrition, N:362

Osyaca [Mexico]. O:378 Oh River (Russia), O:378 Obadiah. Book of [Old Testament]. O-378

Ohan (Scotland) Strathclyde Region (Places to visit). Sa:347

Obasanio, Olusegun [Nigerian political lorder

Nigeria (Nigeria today), N:214 Obelisk larchitecture), O:378

Cleopatra's Needles, Cl:74 with pic-

Thutmose III, T:234

Washington, D.C. picture on, W:57 Washington Monument, W:63

Chelisk of Luxor

Paris (Gardens, squares, and parks), P:179 with picture

Oberammergau [Germany], O:379 with picture

Passion play, P:210 with picture Oberon lopera by Weberl

Weber, Carl Maria von. W:127

Oberth, Hermann

Exploration (Space exploration), E:428 Rocket (Rockets of the early 1900's),

Space exploration (Early dreams of space flight), So:140

Obesity

Disease (Nutritional diseases), D:194 Fat (Fats and disease), F:33

Health (Nutrition), H:94

Heart (Risk factors), H:104

Nutrition (Nutrition guidelines), N:364 Weight control (Dangers of obesity),

W:133; (Causes of obesity) W:133; (How to control obesity) W:135

Ohl (clothing)

Japan (Clothing), §:42

Objective case

Case (Pronouns), C:225

Objective lens

Telescope (Refracting telescopes), T:113

Objectivism

Philosophy (Ethlics), P:421 Oblast (region)

Turkmenistan (Government), T:467

Oboe (musical instrument), 0:379 Music (Woodwind instruments), M:728 with picture

Obote, Apolio Milton (Ugandan political leader), 0:379

Ganda, G:27

Uganda (History), U:3

Obregón, Álvaro (Mexican political leaderl, O:380

Mexico (The Constitution of 1917), M:422

Villa, Pancho, V:394

Obrenović, Miloš [Serbian leader] Serbia (History), S:268

O'Brian, Murrough [Earl of Thomond] ireland, History of (The Tudor conquest), 1:370

OBrien, Conor Cruise Ilrish diplomati, 0:380

O'Brien, Edna [Irish novelist], O:380 O'Brien, Flann [frish author], O:380 O'Brien, William Smith [irish politicianl. 0:380

Obscenity

Freedom of the press. F:437 Obscenity and pornography, 0:380

Obscenity and pornography, 0:380 Censorship (Moral censorship), C:314

Observation station Weather, W:118

Observational study

Statistics (Collecting the data), So:302

Observatory lastronomyl, 0:380 with pictures

See also list of Related Articles

Obsidian [glass]. 0:383 Glass (History of glass), G:195

Igneous rock, 1:28 Indian, American (Weapons), 1:146 Rock (Extrusive rocks). R:307; picture

on R:308

Silicon, S:421 Obstetrics and gynaecology imedicinel. 0:383

Medicine (The specialities), M:311

Surgery, So:439

Obstructive jaundice Jaundice, 1:68

Ocarina imusical instrumenti, O:383 with picture

O'Casey, Sean [Irish dramatist], O:383 Irish literature (The Irish literary revival). 1:383

Realism (In drama). R:160

Occam, William of See William of Ockham

Occam's Razor

See William of Ockham's Occipital bone

Head, H:92 Skuli, S:474

Occipital lobe

Brain (The cerebrum), B:511

Occult

See Occultism

Occult, The [book by Wilson] Wilson, Colin, W:261

Occultation [astronomy] Eclipse, E:53

Occultism, 0:384

See also list of Related Articles Cult (Characteristics of cults), Cl:489 Religion (Religion today), R:205

Occupancy [law], 0:384

Occupation

Social class (How persons are ranked), So:3

Occupational disease

Disease (Environmental and occupational diseases), D:194

Occupational group

Culture (The boundaries of culture), Ci:491

Occupational health Health picture on, H:96

Occupational therapy, 0:384 Handicapped (Rehabilitation medicine), H:46 with picture

Ocean, O:386 with pictures and maps

See also list of Related Articles Animal (Animals of the oceans), A:394 with pictures

Earth (The earth's surface). E:19 Exploration (Deep-sea exploration),

F:426

Rock (Sedimentary rock), R:308 Uranium (Sources of uranium), U:272 Weather (Geographical features).

W:115

World (Physical features of the world). W:325 with map

Ocean basin

Earth (The earth's crust), E:19

Ocean engineering

Engineering, E:258

Ocean liner Ship, S:376

Ocean of Story [book by Stead]

Stead, Christina, So:307

Ocean ridge

Earth (The shaping of the continents). F-25

Ocean sunfish Fish picture on, F:161

Ocean wave

Waves. W:103 Oceanarium

See Aquarium

Oceania Football, Association, F:334

Pacific Islands, P:2 Pacific Ocean (Coastline and islands), P:14

Oceanic crust

Earth (The earth's crust), E:20

Oceanic Island

Bird (Birds of Oceanic islands), 8:335 with pictures

Evolution (Geographic distribution of species), E:410

Oceanography

Exploration (Deep-sea exploration),

Geography (Divisions of geography), C:88

Geology (table), G:92

Geophysics, G:99 Marine blology (Blological oceanogra-

phers), M:210 Ocean (Tools of exploration), 0:399;

(Oceanography) 0:402

Pacific Ocean (Exploration), P:15 Radar (In scientific research), R:57 Ship (Specialized types of vessels), S:381

Oceanus [Greek mythology], 0:403

Ant (Sense organs), A:429 Insect (Sight), 1:252

Ocelot, 0:403

Ocho Rios [jamaica], 0:404

Ochre [pigment], 0:404 Limonite, L:283

Ockham's Razor [philosophy] William of Ockham, W:256 O'Clery, Michael Irish scholar

Four Masters, F:376

504 O'Clery, Peregrine O'Clery, Peregrine [Irish scholar] Four Masters, F:376 O'Connell, Daniel [Irish statesman], 0:404 Ireland, History of (Catholic emancipation), 1:374 Peel, Sir Robert, P:242 O'Connor, C. Y. [Australian architect], 0:404 with portrait Western Australia (Political events), W:183 O'Connor, Feargus Ifrish political leaderl, 0:405 Chartism, C:355 O'Connor, Flannery (American author), 0:405 American literature (Fiction and other prose), A:320 O'Connor, Frank [Irish author], 0:406 Irish literature (Fiction and poetry), 1:384 O'Connor, Rory [king of Ireland] Ireland, History of (Rival kings), 1:370 O'Connor, Thomas Power Ifrish journalisti. 0:406 O'Connor, Turlough [king of Connacht] Ireland, History of (Rival kings), 1:370 Ocotilio (shrub), O:406 with picture Octagon (geometry), O:406 with picture Octahedron (geometry), 0:406 with pic-Polyhedron, P:661 with diagram Octane, 0:406 Octane number, 0:406 Petrol (Petrol octane ratings), P:329 Octant Navigation (History), N:55 Octave [music] Music (Musical terms), M:727; (The elements of music) M:729 Octavia [wife of Mark Antony], 0:406 Octavian See Augustus Octavo [publishing] Follo, F:285 Octifion (number), 0:406 October [film by Eisenstein] Eisenstein, Sergel Mikhailovich, E:135 October [month], 0:407 with pictures See also list of Related Articles Calendar (Ancient calendars), C:35 October Country, The book by Bradbury! Bradbury, Ray, B:505 October Revolution [1917] Lenin, V. I. (Revolt), L:170 Union of Soviet Socialist Republics (The October Revolution), U:32 Octopus, The [book by Norris] American literature (Naturalists), A:315 Norris, Frank, N:245 Octopus, 0:409 with pictures Animal picture on, A:394 Brain (In invertebrates), B:518

0:410 American literature (Drama), A:318 Odin [Norse mythology], 0:411 Balder, B:38 Brunhild, B:601 Mythology (The construction of the world), M:761 Raven, R:146 Vikings (Religion), V:389 Odoacer [king of Italy], 0:411 Europe (Germanic invasions), E:385 Italy (The Middle Ages), E466 Ravenna, R:147 Rome, Ancient (Decline and fall), R:382 Theodoric, T:213 Odometer See Mileometer Odonata lentomology! Insect pictures on, I:242; (table) I:261 O'Donnell, Hugh Roe (Irish resistance leaderl. 0:411 Odorant Perfume, P:281 Odoric of Pordenone Italian mission-**Exploration (East-West contact** resumes), E:419; (table) E:419 Odour Deodorizer, D:122 Flower (The corolla), F:261 Perfume, P:280 Smell, **\$:496** with diagram O'Dowd, Bernard [Australian writer] Australia, Literature of (Other poetry), A:831 O'Dowd, Bernard |Australian poetl, 0:411 O'Duigenan, Peregrine (Irish scholar) Four Masters, F:376 Odysseus See Ulysses Odyssey: A Modern Sequel, The [poem by Kazantzakis] Kazantzakis, Nikos, K:207 Odyssey poem by Homerl, 0:411 See also list of Related Articles Aegean civilization, A:67 Epic, E:311 Fiction, F:69 Homer, H:254 Ionian Islands, 8:327 Oedema [disorder], 0:412

works), M:441 with pictures

O'Dálaigh, Cearbhall (Irish statesman),

Greek literature (Lyric poetry), G:357

Odets, Clifford [American dramatist],

Eye (Care of the eye), E:444

Horse racing (Betting), H:308

Poetry (Lyric poetry), P:609

See also Ophthalmology

Oculist

Odds

0:410

Odd-toed ungulate

Unquiate, U:25

Ode [poetry], 0:410

Pindar, P:503

Oder River, 0:410

Odessa (Ukraine), 0:410

Oestrogen, 0:413 Endometriosis, E:244 Hormone (Growth and sex hormones) Menstruation (The menstrual cycle) Testosterone, T:165 Hormone (Growth and sex hormones). Oestrone Oestrous cycle, 0:414

Oedipus (Greek mythology), 0:412 Antigone, A:459 Mythology (Lévi-Strauss's theory), M:765 Oedipus complex (psychoanalysis), 0:413 Psychoanalysis (Psychoanalytic theory), P:826 Oedipus Rex play by Sophocles Aristotle (Literary criticism), A:569 Drama (Tragedy), D:287 Irony, 1:404 Oedipus, 0:412 Oerlikon machine gun Machine gun (Antiaircraft weapons), Oersted (unit of measure), 0:413 Oersted, Hans Christian (Danish physicist], O:413 Aluminium (The first aluminium), A:294 Electric motor (History), E:155 Electricity (Electromagnetism), E172 Electromagnet, E:176 Electromagnetism, E:177 Galvanometer, G:18 Physics (Developments in the 1800s), Telegraph (Development of the telegraph), T:102 Oesophagus (anatomy), 0:413 with pit ture Alimentary canal, A:269 with diagram Cancer (Cancer of the oesophagus), Fish (Digestive system), F:168

Lymphatic system (Return of Intersitial

fluid), L:426

Goose (The body of a goose), G234 Human body (The mouth, oesophagus and stomach), H:354 Mouth, M:677 with diagram Nutrition (How the body uses food), Stomach, So:333 with diagram Throat, T:230 **Oestradiol** Hormone (Growth and sex hormones) H:278 Oestrogen, O:413 Oestriol Hormone (Growth and sex hormones) H:278

Osteoporosis, 0:514 Reproduction, Human (In females, Steroid (The sex steroids), Soi319

M:349

H:278

Mollusc, M:536 with picture Ocular Microscope (How a microscope

M:209

Marine biology (Marine biologists),

Of Courage Undaunted | work by Daugherty

Daugherty, James Henry, D:43

Of Human Bondage (book by Maugham)

Maugham, W. Somerset, M:266

Of Human Bondage [film]

Davis, Bette, D:46

Of Mice and Men (book by Steinbeck) Steinbeck, John, So:312

Of Plimoth Plantation (book by Bradford

American literature (New England), A:310

Of Thee I Sing [play by Kaufman] Gershwin, George, G:142 Kaufman, George S., K:202

Musical comedy (Musical comedy matures), M:739

Of Time and the River [book by Wolfe] Wolfe, Thomas Clayton, W:287

OFaolain, Sean (Irish author), O:414 Irish literature (Fiction and poetry),

Off Stonington [painting by Marin] Marin, John, M:208

Painting picture on, P:41

Kings and queens of Britain and Ireland (The Angio-Saxon and Danish kings), K:260

Offa's Dyke, O:415

Gwent (Places to visit), G:437 Powys (History), P:734 Shropshire (Places to visit), S:403 Wales (Medieval Wales), W:16

Offaly [Ireland], O:414 with picture and

Arms picture on, A:588

Offenbach, Jacques iFrench composeri, 0:415 Operetta, O:475

Offence-based deterrence theory

Nuclear weapon, N:339 Office building

Architecture picture on, A:512

Office of Telecommunications (Oftel) United Kingdomi

Telephone (United Kingdom), T:109

Parliamentary procedure, P:194 Ship (Officers and crew), \$:382 Offset, O:415

Book (Modern books), B:458

Magazine (Editing and assembling an Issue), M:41

Newspaper (Printing the paper), N:183 Photoengraving and photolithography (Photolithography), P:437 with diagrams

Printing (Printing by offset lithography), P:783

Offshore drilling

Petroleum, P:344 with picture

Offshore well

Energy supply picture on, E:247 Gas (Producing gas), G:51; picture on G:56

Nigeria picture on, N:213

Ocean (Energy), 0:390

Petroleum picture on, P:340

O'Flaich, Tomás Cardinal IIrish reifglous leaderl, 0:416 with picture

O'Flaherty, Liam [Irish author], 0:416 Irish literature (Fiction and poetry),

1/384

Ogađen

Ethiopia (Haile Selassle), E:341 Somalia (History), So:36

Ogasawara-gunto

Bonin Islands, B:449

Ogburn, William F. lAmerican sociologist

Cultural lag, Cl:489

Ogdon, John (British pianist), 0:417 Ogen melon

Melon (Types of melon), M:338

Ogilvie, Will (Australian writer) Australia, Literature of (The bush ballad), A:831

Oglethorpe, James Edward (British co-Ionial official), 0:417

Ognissanti Madonna (painting by Giotto

Giotto, G:163

Ogwr [Wales], 0:417

Oh! To Be in England book by Bates Bates, H. E., B:149

Oh, Sadaharu [japanese basebail playerl, 0:417

Ohain, Hans von [German physicist] Invention (The 1900's), L319 Jet propulsion (Development of jet propulsion), J:106

O'Hara, Frank (American poet) American literature (Poetry), A:319

O'Hara, John |American author), 0:417 American literature (Fiction and other prose), A:320

O'Hara, John Francis Cardinal [American religious leaderl, 0:417

Ohla, 0:417

O'Higgins, Bernardo (Chilean political leader), O:417

Argentina picture on, A:562; Chile (Independence), C:424 (Building the nation) C:425; San Martín, José de. S:69

Ohio [U.S.A.], O:418 with picture and map

Ohio River [U.S.A.], O:419 with map

Ohio Submarine (Nuclear submarines),

So:372

Ohm. 0:419

Electric circuit (Circuit mathematics),

F:142 Electric measurement, E:152 Electricity (Electric circuits), E:169

Ohm, Georg Simon, 0:419 Ohm, Georg Simon |German physicistl,

05419 Electric circuit (Circuit mathematics),

Electricity (Electromagnetism), E:172 Ohm's law, 0:419

Ohmmeter (electricity) Ohm. 0:419

Ohm's law, 0:419

Electric circuit (Circuit mathematics), E:142

Electricity (Electric circuits), E:169 Ohm, Georg Simon, 0:419

Oil. 0:419

See also list of Related Articles Ocean (Ocean pollution), O:401 Petroleum, P:335

power), V:396 with picture West Indies picture on, W:171

Victoria (Water, irrigation, mining, and

Western Australia (Mining), W:161

Oil-based paint

Paint (Household paints), P:23

Oil derrick

Crane (Derricks), Ci:416 Petroleum (table), P:336 with picture; diagram on P:343

Oil embargo

Energy supply (Political and economic effects), E:251

Oll field

Petroleum (table), P:336; (Conservation by the oil industry) P:351

Oli gland

Acne, A:24 Oll heating

Heating, H:128

Oll industry

Grampian Region, G:289 Nigeria (Nigeria today), N:214 Saudi Arabia, S:109 with picture

United Arab Emirates, U:40 with pic-

ture

Oil lamp Invention picture on, £312 Lamp (Fat or oil lamps), L:36 with picture

Oli mallee (tree)

Eucalypts picture on, E:350

Oil painting See Painting

Oli palm

Palm oil, P:107 Palm (Products of palms), P:107

Oil prices

Petroleum (Recent developments), P:353

Oli refinery

Petroleum picture on, P:336

Oil reserves

Energy supply (Political and economic effects), E:251

Oil sand

Energy supply, E:248

Oli shale, 0:420

Energy supply, E:248 Fuel (Synthetic liquid fuels), F:478 Petroleum (The United States and Can-

ada), P:338

Rundle Oil Shale Project, R:457 Synthetic fuel, So:518

Oil spill

Alaska (History), A:227 Ocean (Ocean pollution), O:401 with

picture Persian Gulf War (The war), P:298

Tanker (Water pollution by tankers),

Norway (Recent developments), N:302

Old age, 0:425

T:29 Aging, A:159 els), S:175 Old Myths and New Realities hook by Alzheimer's disease, A:296 Oll spills Death (Attitudes about death), D:59 Environmental pollution (Kinds of envi-**Fulbright** Developmental psychology (Maturity Fulbright, J. William, F:481 ronmental pollution), E:302 with Old New York [book by Wharton] and old age), D:145 diagram Geriatrics, G:105 Wharton, Edith, W:214 Old North Church [U.S.A.], 0:427 Petroleum (Drilling an oil well), P:342 Growth (When people stop growing), Well, W:144 **Old Order Amish** Amish, A:333 with picture Middle Age, M:444 Oil window Old people Petroleum (How petroleum was Senility, S:254 Day care (Day care for the elderly), Old-age pension formed), P:339 Pension, P:265 Oilbird, 0:420 with picture Old Babylonian Empire **Old Pretender** Olicioth, 0:421 Jacobite risings, 1:8 Babylon, B:11 Oireachtas (Ireland), 0:421 Old process system Old Bailey (London), 0:426 See also list of Related Articles Old Calabria (novel by Douglas) Maize (The dry-milling Industry), M/A Dublin, D:329 Old Regime and the Revolution, The Douglas, Norman, D:273 Ireland, Government of, 1:362 Irish Constitution (Form of govern-Old Catholic churches, 0:426 (book by Tocqueville) Tocqueville, Alexis de, T:273 ment), 1:379 Old City (Jerusalem) Oistrakh, David lUkrainian violinisti, (East Jerusalem), J:89; (Holy places) Old Sarum [England], 0:427 Old South, The [book by Bontemps] 0:421 J:92; (Israeli control) J:94 Bontemps, Arna Wendell, B:452 Olos del Salado Imountain, South Old Comedy [Greek drama] Drama, D:287 Old Spanish Trail Americal, 0:421 Greek literature (Drama), G:357 Santa Fe Trail, S:78 Okapi, 0:421 with picture Old Testament, 0:427 Okavango, 0:422 Old Creole Days |book by Cable| Bible, B:270; B:271; (Development of O'Keeffe, Georgia (American artist), Cable, George Washington, C:7 the Old Testament) B:273 Old Delhi O:422 Dead Sea Scrolls, D:54 Photography picture on, P:463 Delhi, 10:92 with picture Islam (The teachings of Islam), 1413 Stieglitz, Alfred, So:325 Old Dog Barks Backwards, The |work Judaism, J:154 O'Kelly, Sean Thomas (Irish patriot), by Nashl Pentateuch, P:266 Nash, Ogden, N:26 O:422 Poetry (Ancient poetry), P:613 O'Kennedy, Michael Irish political Old English Psalms, Book of, P:824 leaderl, 0:422 English language, E:282 Septuagint, \$:264 Okhotsk, Sea of, Q:422 Old English sheepdog, 0:427 Old Vic Londoni, 0:428 Pacific Ocean (Coastline and islands), Dog picture on, D:231 Baylis, Lilian Mary, **B:163** P:14 "Old Falthful" Shakespeare, William (Modemper Okinawa (island, Pacific), 0:422 with Gevser, G:145 formances), S:327 picture and map Old French (language) Theatre (England), T:205 Japan (The Ryukyu and Bonin islands), French language, F:445]:48 Trouvère, T:420 **Old West** Westward movement, W:197 Ryukyu Islands, R:510 with map Old Gringo, The book by Fuentes World War II (Closing in on Japan), Old Woman Fuentes, Carlos, F:480 Australian Aborigines (Gods and god W:400 Old tronsides [locomotive] desses), A:838 Oklahoma [U.S.A.], 0:424 with pictures Baldwin, Matthias William, B:39 with Old World, 0:428 and map picture Old World common cuckee Oklahoma City [U.S.A.], 0:424 Old tronsides [ship] Cuckoo, Cl:486 with picture **Oklahoma State University** See Constitution [ship] Old World cotton Oklahoma picture on, 0:424 "Old Ironsides" (poem by Holmes) Cotton, Ci:383 Oklahoma Territory [U.S.] Holmes, Oliver Wendell, H:248 Old World leaf-nosed bat Indian Territory, 1:172 with map Old Man and the Sea, The book by Bat (Kinds of bats), B:148 Oklahoma/[musical] Hemingway! Old World Monkey Dancing (Dancing since 1900), D:28 Monkey, M:562; picture on M:564 Hemingway, Ernest, H:148 Hammerstein, Oscar, II, H:32 Old Man and the Sea, The [film] Old World Vulture Rodgers, Richard, R:330 Tracy, Spencer, T:324 Vulture, V:429 with picture Okoumé tree Old man cactus Old World warbler Equatorial Guinea (Economy), E:315 Cactus, C:10 with picture Oldenburg, Claes [American sculptol Okra, 0:425 with picture Old Man in the Corner, The book by Ola, Ola and Blakken [work by d'Au-Old-Fashioned Girl, An (book by Aloss lairel Detective story (History), D:136 D'Aulaire, D:43 Orczy, Baroness, 0:491 Alcott, Louisa May, A:240 Olav I (king of Norway) Old man's beard Oldham [England], 0:428 Olds, Ransom Eli |American inventori Norway (History), N:300 Fringe tree, F:461 Olav II (king of Norway) Old Manse (book by Hawthorne) 0:427 Norway (History), N:300 Hawthome, Nathaniel (Life), H:88 Olduvai Gorge [Africal Olav V [king of Norway], 0:425 Old Men at the Zoo, The work by Wil-Homo habilis, H:257 Norway (Postwar developments), sonl Leakey family (Louis Seymour Baret Zinjanthropus, Z:498 N:301 Wilson, Sir Angus, W:261 Leakey), L:136; (Mary Douglas

Old Mortality [book by Scott] Scott, Sir Walter (The Waverley nov-

Leakeyl L:136 Tanzania (History), T:35 Oleander, 0:428 with picture O'Leary, Michael (Irish politician), 0:438 Olefin

Fibre (Manufactured fibres), F:67 Hydrocarbon (Aliphatic hydrocarbons),

Petrochemicals, P:328

Diele acid

Fat (Structure), F:34

Olein

Lard, L:65

Olemedo, José Joaquín Latin-American literature (The 1800's),

1:95

Oleomargarine Margarine, M:203

Oleoresin Resin, R:239

Oleuropein

Olive, 0:429

Offactory bulb Nose, N:303

Smell (How odours are detected),

Olfactory nerve

Nose, N:303

Olgas Irockl, O:429

Northern Territory picture on, N:278

Frankincense, F:425

Oligarchy igovernmentl, O:429

Greece, Ancient (Government), G:352 Oligocene Epoch

Earth (The Cenozoic Era), E:28; table on E:30

Oligochaete wurm

Worm (Segmented worms), W:411 Oligopoly

industry (Industrial organization), 1:224 inflation (Theories about the causes of Inflation), 1:230

Monopoly and competition, M:568 Olivares, Antonio [Spanish missionary] San Antonio, S:64

Olive itree and fruiti, O:429 with picture Olive oll, O:430

Olive, 0:429 Vegetable oll, V:323 Offver Twist book by Dickens

Child labour, C:410 Dickens, Charles (The first phase),

D:160 with picture Olivar, Jack E. (American earth scientist)

Continental drift, Ci:316 Olives, Mount of

See Mount of Olives

Olivier, Laurence (British actor), 0:430 with portrait

Film industry (Best performance by an actor), F:96

Shakespeare, William (Modern performances), \$:327 with picture Olivine [mineral], 0:431

Mineral (Mineral composition and structure), M:487 Peridot, P:282

Olmec

Indian, American (Indians of Middle America), I:160

Sculpture (Indian sculpture of the Americas), S:205 with picture

Olmsted, Frederick Law (American architect), O:431

Landscape architecture (History), L:45 Park (History), P:186

Olsen, John [Australian painter], 0:431 Olson, Charles [American poet], 0:431 American literature (Poetry), A:319

Olympia [Greece], 0:431 Olympia (painting by Manet)

Manet, Edouard, M:152

Olympiad, 0:431

Olympians

Mythology (Greek mythology), M:757 Olympias (mother of Alexander the

Greatl, 0:431

Alexander the Great (His boyhood), A:243

Olympic Games, 0:432 with pictures See also list of Related Articles Athletics (Types of competition), A:712

Boxing, B:494 Greece, Ancient picture on, G:353 Hockey (Hockey in India and Pakistan), H:239; (Hockey in the United Kingdom) H:239

Horse (Horse shows and sports), W1259

Horse racing (History), H:308 Olympia, 0:432 with picture Olympiad, 0:431 Seoul (The city), S:258; (History)

5:260

South Africa, So:56

Olympic Mountains (U.S.A.), 0:446 Olympic National Park

Olympic Mountains, 0:443

Olympics

See Olympic Games

Olympus, 0:446 Olympus, Mount

See Mount Olympus

Omagh [Nothern Ireland], 0:447

Omaha [USA], 0:447

O'Malley, Desmond [Irish political leaderl, 0:447

O'Malley, Grace (trish political leader),

O'Malley, King (Australian political leader), O:448

Oman, 0:448 with map and pictures Flag picture on, F:206

Royal familles, R:421 Oman, Sir Charles (British historian), 0:450

Muslims (The spread of Islam), M:743

Omar ibn al-Khattab, 0:450

Omar Khayyam (Persian poet), 0:450 Algebra (History), A:260

Rubalyat, R:429 Mathematics (Arab mathematics), M:257

Omasum

Ruminant, R:456 with diagram

Omayyad dynasty

Arabs (The rise and spread of Islam), A:492

Damascus (History), D:17 Muslims (The Umayyad caliphs),

World, History of the (The Islamic world), W:344

Ombudsman, 0:450

Denmark (Government), D:108 Norway (Government), N:292 Sweden, So:462

Omdurman (Sudan), 0:450

Omdurman, Battle of [1898]

Sudan (Egyptian and British control),

Omega

Navigation, N:54

Omen. 0:450 Augur, A:742

Omertà (code of honour) Sicily (The people), S:408

Omm Kaithum (Egyptian singer), 0:450 Ommatidium

Compound eye, Cl:251

Omnirange navigation system Navigation, N:54

Omnivore, 0:451

Animal (Adaptations for eating), A:398 Herbivore, H:163

Mammal (What mammals eat), M:130

Omri (Biblical figure) Ahab, A:178

Samaria, S:61

Omsk [Siberial, 0:451

O'Mulconry, Fearfeasa [Irish scholar] Four Masters, F:376

On Architecture (book by Alberti) Alberti, Leon Battista, A:233

Architecture (Early Renaissance architecture), A:526

On Baile's Strand [play] Abbey Theatre, A:5

On Eloquence in the Vernacular work by Dantel

Dante Alighieri (His works), D:31 On Eternal peace [book by Kant]

Political science (Liberalism), P:654

On-line catalogue Database, D:40

On My Own (book by Roosevelt) Roosevelt, Eleanor, R:386

On Old Routes of Western Iran (book

by Stein Stein, Sir Aurel, So:312

On Our Selection [story by Davis] Australia, Literature of (Short stories), A:832

On Our Selection (book by Rudd) Rudd, Steele, R:442

On Painting (book by Alberti) Alberti, Leon Battista, A:233 Perspective, P:302

On Photography lessays by Sontagl Sontag, Susan, So:42

On Tennis (book by Budge) Budge, Don, B:618

On the Art of Writing book by Quiller-Couch)

On the Beach Quiller-Couch, Sir Arthur, Q:29 On the Beach [book by Shute] Shute, Nevil, S:405 On the Divisions of Nature (book by Erigenal Erigena, Johannes Scotus, E:319 On the Equilibrium of Heterogeneous Substances (book by Gibbs) Gibbs, Iosiah Willard, G:154 On the History of Religion and Philosophy in Germany work by Heinel Heine, Heinrich, H:135 On the Mail (music by Goldman) Goldman, Edwin Franko, G:242 On the Origin of Species book by Dar-See Origin of Species, The On the Revolutions of the Heavenly Spheres (book by Copernicus) Copernicus, Nicolaus, Ci:340 Science (The rebirth of science), S:146 On the road (book by Kerouac) American literature (Fiction and other prose), A:320 On the Seats and Causes of Diseases **lbook** by Morgagnil Morgagni, Giovanni Battista, M:605 On the Spot [book by Wallace] Wallace, Edgar, W:24 On the Structure of the Human Body [book by Vesalius] Medicine (The Renaissance), Ma315 On the Structure of the Human Body [book by Vesalius] Biology (The Renaissance), B:306 with picture Science (The rebirth of science), S:146 Vesalius, Andreas, V:350 Zoology (History), Z:506 On the Town [film] Kelly, Gene, K:212 On the Waterfront [film] Brando, Marlon, 8:523 Film industry (Best picture), F:96 Kazan, Elia, K:207 On Trial [play by Rice] Rice, Elmer, R:267 On World-Government Dante Alighieri (His works), D:31 On Your Toes [musical] Hart, Lorenz, H:69 Rodgers, Richard, R:330 Ona (tribe) Indian, American (Indians of the Marginal Regions), L163 Onager, 0:451 with picture Onassis, Aristotle Socrates [Greek shipowner!, 0:451 Onassis, Jacqueline (wife of Aristotle Onassisi Onassis, Aristotle Socrates, 0:451 Once and Future King, The Ibook by White, T. H., W:232 Once in a Lifetime (play by Kaufman and Hart Hart, Moss, H:69

Kaufman, George S., K:202

Onchocerclasis Blindness (Causes of blindness), B:389 Gnat. G:217 Oncology, 0:451 Medicine (The specialities), M:311 Ondine [play by Giraudoux] Giraudoux, Jean, G:166 Korea (Housing), K:323 One, Two, Three [film] Cagney, James, C:15 One-armed bandit Slot machine, S:488 One-celled organism Protist, P:817 Protozoan, P:818 with pictures Reproduction (Through asexual reproduction), R:223 One-crop farm Agriculture (Specialized farms), A:163 One Day in the Life of Ivan Denisovich (book by Solzhenitsyn) Russian literature (Recent Soviet literature), R:501 Solzhenitsyn, Alexander, So:34 One Fine Day (book by Hogrogian) Hogrogian, Nonny, H:242 One Flew over the Cuckoo's Nest **Ibook by Keseyl** American literature (Fiction and other prose), A:320 120 Days of Sodom [book by Sade] Sade, Marquis de, S:8 One Hundred Years of Solitude book by García Márquezl García Márquez, Gabriel José, G:32 with portrait Latin American literature (Recent developments), L:97 One Man's initiation Inovel by Dos Passosi Dos Passos, John, D:271 One Touch of Venus [musical by Weill] Weill, Kurt, W:141 O'Neale, Peggy (American public figure), 0:451 Onega, Lake See Lake Onega Oneida Itribel Indian, American (Indians of the Northeast), I:152 O'Neill, Conn [Earl of Tyrone] Ireland, History of (The Tudor conquest), 1:370 O'Neill, Eugene Gladstone | American playwrightl, 0:452 with portrait American literature (Drama), A:318 with portrait Drama (United States drama), D:299

Naturalism (Naturalism in drama), N:48

O'Nelll, Lord [Northern Ireland states-

O'Neill, Owen Roe [Irish patriot], 0:452

tal churches), P:268

Pentecostal churches (Major Pentecos-

Realism (In drama), R:160

Tyrone, Earl of, T:494

man], 0:451

Oneness churches

O'Neill, Hugh

One-Upmanship [book by Potter] Potter, Stephen, P:722 Onion, O:452 with picture Onn Bin Ja'afar, Dato, 0:453 Onnes, Heike Kamerlingh (Dutch physicist Nobel Prizes (Physics), N:226 Superconductivity, So:428 One Ifishl See Wahoo Onondaga [tribe] Indian, American (Indians of the North east). I:152 Onorata Società [secret society] Mafia, M:39 Onslow, Arthur (British politician) 0:453 Ontario (Canadal, 0:453 Canada, C:71 Ontario, Lake See Lake Ontario Ontology Philosophy (Metaphysics), PA20 Onyx (gem), 0:453 Agate, A:155 Cameo, C:54 with picture Gem picture on, G:73 Onvx marble Onyx, 0:453 Oostende See Ostend Ooze [earth], 0:454 Ocean (Deep-sea peaks, valleys, and plains), 0:396 Op art Moiré pattern, M:529 with picture Painting (Postwar European painting) P:87 with pictures South Africa, Art of (Overseas Influences), So:71 Opal (gemstone), 0:454 with picture Gem (Sources of gems), G:71; (Value of gems) G:73; picture on G:72 Opal glass Glass (Kinds of glass), G:190 Glass (Types of art glass), G:199 Opango, Joachim Yhombi (Congolesi political leader) Congo (History), Cl:261 Opaque projector Oparin, Alexander Ivanovich (Soviet Projector, P:799 biochemistl, 0:454 Life (Modern theories), L:249

See Organization of Petroleum Expor

American literature (Naturalists), ACIS Open Boat book by Cranel

Aluminium (Sources of aluminium)

Bauxite (How bauxite is obtained),

ing Countries Opechancanough Indian chief

Open-angle glaucoma Eye (Diseases of the eye), E:441

Opencast mining

B:160 Brazil picture on, B:542

Indian wars (jamestown), 1:173

OPEC

Copper (Sources of copper), Cl:341 Iron and steel, 1:388 with picture Mining, M:493 with diagrams; picture on M:491

Peru picture on, P:314 Open circuit [electricity]

Electric circuit, E:141

Open city

International law (The laws of war), I:291

Open cluster (astronomy) Milky Way (Shape of the galaxy),

M:471

Star (Star groups), So:282

Open dump

Waste disposal (Methods of waste disposal), W:65

Open-heart surgery Heart (Treatment), H:105

Hypothermia, H:417

Open-hearth furnace

Iron and steel (The open-hearth process), I:394

Open-hearth process

fron and steel (The open-hearth process). 1:394

Open learning

Open University, 0:455

Open-mesh fabric

Textile (Nets and laces), T:172

Open primary

Primary election, P:777

Open range

Ranching, R:132 Open shop [labour], O:455

Open University, O:455

Television (Public television), T:120

Opening

Architecture, A:516

Opening machine

Textile (Making the yarn), T:172

Opening of the Field, The poem by Duncan

Duncan, Robert, D:348

Opera, 0:456 with pictures See also list of Related Articles Classical music, Cl:57

Opera buffa

Opera (table), 0:457; (Baroque opera) 0:463

Opéra de la Bastille

Paris (Arts), P:181 with picture

Opera Geometrica (book by Torricelli) Torricelli, Evangelista, **T:305**

Opera house

Opera, 0:456

Opera seria

Opera (table), O:457; (Baroque opera)

Operas & Plays (work by Stein) Stein, Gertrude, So:312

Operation Barbarossa

World War II (The invasion of the Soviet Union), W:387 Operation

See Surgery

Operation Bootstrap Puerto Rico (History), P:848

Operation code

Computer (The control unit), Cl:259

Operation Overlord

Eisenhower, Dwight David (Military ca-

reer), E:132 World War II (D-Day), W:392

Operculum

Moss (How mosses live), M:637

Operetta, 0:475

See also list of Related Articles

Ophthalmia, 0:476

Ophthalmia neonatorum

Blindness, B:388 Ophthalmia, 0:476

Ophthalmology, 0:476 Eye (Care of the eye), E:444

Glasses (How glasses are prescribed and made), G:203

Medicine (The specialities), M:311

Surgery, So:439

Ophthalmoscope (Instrument), 0:476 with picture

Helmholtz, Hermann Ludwig Ferdinand von, H:146

Medicine picture on, M:307

Opiate [drug], 0:476

Drug (Analgesics), D:313 Opie, John [English painter], 0:476

Opinion

Debate (The evidence), D:62

ludgment, J:158

Public opinion, P:837

Opinion magazine

Magazine (Kinds of magazines), M:40 with picture

Opinion poll

See Public opinion poll

Opium, 0:476 with picture

See also list of Related Articles Drug (Plants and moulds), D:315 with

picture (Drugs in ancient times) D:317

Poppy, P:682

Drug abuse (Abuse of illegal drugs), D:321

Opium War

China (Clash with Western powers),,

Hong Kong (British control), H:270 Shanghai (History), S:330

Oporto

See Porto

Opossum, 0:477 with pictures

Fur (table), F:488

Mammal (Marsupials), M:133 with pic-

Marsupial (Kinds of marsupials), M:228

Oppenheimer, Harry South African businessman

Oppenhelmer, 0:478

Oppenheimer, J. Robert |American

physicistl Oppenhelmer, 0:478 with portrait;

Nuclear weapon (World War II), N:340

Oppenheimer, Sir Ernest | South African businessmanl, 0:478

Opperman, Sir Hubert (Australian racing cyclistl, 0:478

Opportunistic illnesses

AIDS, A:179

Opposition [astronomy], 0:478

Opposition (politics)

Democracy (Political parties), D:102 Parliament (How the House of Com-

mons works). P:191

Political parties (Providing opposition),

P:649

United Kingdom, Government of the (The House of Commons), U:111; (His (or Her) Majesty's opposition) **ti:111**

Oprichnina

Ivan IV, the Terrible, 1:473

Opstina

Macedonia, M:8

Optacon

Blindness (Overcoming blindness),

B-189

Optic chiasm [anatomy]

Eye (Depth perception) diagram on,

Optic lobe

Brain (in invertebrates), B:518

Optic nerve

Blind spot, B:387

Blindness (Glaucoma), B:388

Eye (Parts of the eye), E:435; (Diseases of the eye) E:444

Optic neuritis

Eye (Diseases of the optic nerve), E:444

Optical astronomy

National Optical Astronomy Observatories, N:36

Optical character reader

Post office (Sorting), P:712 Optical character recognition

Printing (Typesetting), P:781

Optical digital recording Record player, R:163

Optical disc, 0:479

Optical fibre Cables (Fibre-optic cables), C:5 Electronics (Electronics and light),

E-190 Endoscope, E:244

Fibre, F:67 with picture

Fibre optics, F:67 Glass (Kinds of glass), G:190 Invention (Recent developments),

1:320

Wire (Uses of wire), W:278

Optical glass

Glass (Kinds of glass), G:190 Quartz (Properties and uses), Q:9

Optical illusion, 0:479 with pictures

Optical maser See Laser

Optical microscope

Cell (Looking at a cell), C:294 Microscope, M:441 with pictures

Optical observatory Observatory, 0:381

Optical plummet (instument) Surveying (Early tools), So:446

Optical scanner

Bar coding, B:100

Blindness (Overcoming blindness),

B:389

Africa (Literature), A:135

Oral pathology

Dentistry, D:120

Scandinavian literature, S:120

Mars. M:220 with picture Computer, Ci:258 Oral surgery Moon, M:590 with diagram Dentistry, D:120 Laser (Scanning), L:70 Planet (Orbiting the sun), P-534 with Oral thrush Optical telescope Astronomy picture on, A:690, A:693 Thrush (infection) T:231 diagrams Relativity (General relativity theory) National Ontical Astronomy Obser-Oran [Algeria], 0:481 vatories, N:36 Orang asil [people] R:193 Satellite, Artificial (Satellite orbiti Kelantan (People and government), Telescope, T:113: (Recent developments in telescopes) T:116: pic-S:95 with diagram; (Falling from Orange [Australia], 0:463 orbit) S:98 tures on T:114 Optically pumped magnetometer Orange Icolouri Orbital period [astronomy] See Colour Satellite, Artificial (Satellite orbits 5% Magnetometer, M:60 Optician Orange [fruit], 0:481 Orbital plane Fruit (Subtropical fruits), F:473 Earth (How the earth moves), E18 Eve (Care of the eve), E:444 Glasses (How glasses are prescribed Spain (Agriculture), So:180 with pic-Orbital velocity and madel, G:203 Space exploration (Space exploration Ophthalmology, 0:476 Transvaal picture on, T:364 terms), So:130; (Overcoming one-Optics, 0:479 Orange Day ityl So:133 Diffraction, D:170 Northern Ireland (Way of life), N:272 Orbiting Astronomical Observator Orange Free State (South Africa) Keoler, Johannes, K:231 Astronomy (Space exploration), Asset Lens, Li173 with diagrams See Free State. Rocket picture on, R:319 Light (How light behaves), L:260 with Orange Order pictures and diagrams Orangemen, 0:484 Orbiting Solar Observatories Astronomy (Space exploration), Asset Orange River (South Africal, O:483 Newton, Sir Isaac (Light and colour), Orcadians (people) NITER Eastern Cape (Land), E:45 Physics (Light), P:473 Free State, F:431 Orkney, 0:502 Prism. P:788 South Africa (Rivers), So:63 Orchard Optimism (book by Keller) Orange River Colony [South Africa] See Fruit: Horticulture Orchard grass [plant] Keller, Helen Adams (She helps oth-Free State (History), F:432 Grass (Common grasses), G:303 with ers), K:212 South Africa, History of (Annexation of picture Optimum input-mix Orange River Colony), So:79 Orchestra, 0:486 with pictures Industry (Management), 1:222 **Orange Society** See also list of Related Articles Options [book by Henry] Orangemen, 0:484 Drama (Greek drama), D:286 Henry, O., H:154 **Orange Sulphur** Opera, 0:459 Optoelectronic device Butterfly picture on, B:683 Orchestra bells, 0:489 Electronics (Electronics and light), Orange, House of Orchestral Management, 0:484 F-190 Mary II. M:237 Optometrist Orchestral music William III, W:255 Classical music, Cl:56 Eye (Care of the eye), E:444 Orangemen, 0:484 Orchestral Suites (music by Bach) Glasses (How glasses are prescribed Northern Ireland (Way of life), N:272 Bach, Johann Sebastian (The Third Pe and made), G:203 William III (king of England), W:256 riod), B:17 Optometry, 0:480 Orangeroot Orchid, O:489 with pictures Opus maius [work by Bacon] Goldenseal, G:241 Greenhood, G:360 Bacon, Roger, B:19 Orangutan, 0:484 with picture Orcus (Roman mythology) Opus Oxoniense (book by Duns Scotus) Animal picture on, A:389 Pluto, **P:605** Duns Scotus, John, D:350 Ape picture on, A:470 Orczy, Baroness [Hungarian-both 1] Or Oraniestad thor], O:491 Heraldry (Expansion), H:160 Aruba, A:615 Ord River, 0:491 Oracle, 0:480 Orator Western Australia, W:177 Cleisthenes, Cl:72 See also list of Related Articles Ord River Dam Delphi, D:99 Oratory, 0:484 Ord River, 0:491 Divination, D:205 Oratorio [music]. 0:484 Fortunetelling, F:366 Classical music. Ch57 Ordeal Divination, D:205 Ordeal of the Union, The book by No. Greece, Ancient (Religion), G:347 Handel, George Frideric, H:41 Magic (History), M:46 Opera, 0:456 Mythology (Greek divinities), M:757 Oratory, 0:484 Nevins, Allan, N:106 Oracles, The [book by Kennedy] Quintilian, Q:30 Order larchitecture Architecture (Architectural terms) Kennedy, Margaret, K:218 Orb [symbol] Oral arm Coronation (The British coronation), A:514 with pictures Jellyfish, J:82 Cl:363 Order (biology), 0:491 Animal (The scientific classification of Oral contraceptive Crown jewels (Orbs and sceptres), Birth control (Methods of birth con-Cl:461 with picture animals), A:380 Classification, Scientific (How orga trol), B:367 Orbit nisms are classified), Cl.66 **Oral formulaic** Space exploration (Space exploration (Groups in classification) Chall Epic. E:311 terms), So:130: (Kinds of earth or-Insect (The world of Insects), but **Oral literature** bits) So:131 with diagrams

Orbit [anatomy]

Eye (Parts of the eye), E:435

Orbit [astronomy], 0:485 with diagram

Earth (How the earth moves), E:18

(table) 1:261

Order in Council, 0:491 Crown, The (The powers of the

Aeschvius, A:108 Cmwn), Ci:459 Drama (Tragedy), D:286 Ordered pair Algebra (Functions), A:258 Orestes [Greek mythology], 0:493 Flectra, E:139 Ordinal number Number and numeral. N:343 Iphigenia, I:329 Orestes (play by Euripides) Ordinary construction Euripides, E:355 Building construction, B:628 Orfeo lopera by Gluckl Ordinary People [film] See Orpheus and Eurydice film industry (Best picture), F:96 Orfeo (opera by Monteverdi) Redford, Robert, R:175 Monteverdi Claudio M:577 Ordinary seaman Orff, Carl (German composer), 0:493 Ship (Officers and crew), S:382 Organ, Vestigial lanatomyl Ordinate Geometry (Analytic geometry), G:97 Evolution, E:410 Organ (anatomy) Ordination (religion) See Human body Anglicans (Christian unity), A:368 Organ (musical instrument), 0:493 with Ordnance imunitions), O:491 See also Ammunition; Weapon pictures Ordnance Survey (OS), O:491 Organ of Corti Deafness (Types of hearing disorders), Ordovician Parind Australia (Palenzoic Era), A:767 Far (The cochiea). E:9 with picture Earth (The Palaeozoic Fra), F:27: (table: Organ-pipe cactus Outline of the earth's history) E:30 Ore Icoln, Swedenl, O:492 Cactus, C:10 with picture tre coin, Denmark and Norway!, 0:492 Organ transplant See Tissue transplant Ore [mineral], O:492 Gold (How gold is removed from ore) Organelle Cell (The cytoplasm), C:295: (Mempicture on, G:234 branes) C:295: (Bacteria cells) Iron and steel (Sources of iron ore). C-295 1:387; (Mining and processing Life (Cells), L:247 Iron ore) 1:388 Organic chemistry Rock, R:307 Smelting, 5:497 Chemistry, C:371 Ore carrier (ship) Exobiology, E:415 Hydrocarbon, H:400 Ship (Dry bulk carriers), S:379 with Science (The physical sciences), S:140 picture on S:381 Ore milling Organic chemistry, 0:495 Edison, Thomas Alva (Inventor-Organic chlorine Insecticide (Types of Insecticides), industrialist of West Orange), E81 **Ore Mountains** 1:263 Cech Republic (The Bohemian Moun-Organic compound Hazardous wastes, H:92 tains), Cl:518 Oreganii Organic design Furniture, F:506 with picture Marjoram, M:212 Oregon (U.S.A.), O:492 with map Organic farming Oregon grape, O:492 See Agriculture Oregon Territory [U.S. history], O:492 Organic fertilizer Indian wars (Death on the Plains), 1:175 Fertilizer, F:60 Oregon Trail, O:492 Organic hypoglycaemia Hypoglycaemia, H:417 Westward movement, W:198 Oregon |ship Organic insecticide Insecticide (Types of insecticides), Panama Canal (The United States and the canal), P:124 1:263 O'Reilly, Bernard [Australian writer], Organic matter Gardening (Analysing the soil), G:38 0:493 O'Relily, Bill [Australian cricketer], Organic phosphate insecticide 0:493 Insecticide, I:264 O'Reilly, Tony [Irish businessman], Organic sediment 0:493 Rock, R:308 Orellana, Francisco de (Spanish ex-Organic soil Soil (Plant and animal matter), So:20 plorerl, O:493 Amazon River (History), A:300 Organic theory of petroleum forma-Exploration (table), E:421; map on Petroleum (How petroleum was E:420

formed), P:339

Organization (biology)

Classification, Scientific (How orga-

nisms are classified), Cl:66

Embryo (Human development), E:227 Organization for Economic Cooperation and Development (OECD). International Energy Agency (IEA), t-290 Organization for European Economic Cooperation (OEEC) Marshall Plan, M:227 Organization of African Unity (OAU). 0:495 Africa (Africa today), A:153 Chad (History), C:333 Flag picture on, F:210 **Organization of American States** (OAS), O:496 Barbados (History), B:103 Dominican Republic (History), D:261 Pan American Union. P:113 Organization of Islamic Conference, 0:496 Organization of Petroleum Exporting Countries, 0:496 Indonesia (Mining), 1:192 Petroleum (The petroleum industry), United Arab Emirates (Economy), U:39 Organizational psychology Industrial psychology, 1:208 Organized crime Crime, Cl:436 Italy (Social problems), 1:471 Mafia M:39 Organon der rationellen Heilkunst (book by Hahnemann) Hannemann, Samuel, H:B O'Riada, Sean Ilrish musiciani, O:497 Oriel window Window, W:271 Orient, 0:497 Oriental alabaster Alabaster, A:224 with picture Oriental arborvitae Arborvitae, A:497 Oriental art Asla (The arts), A:641 Painting (Oriental painting), P:48 Oriental cockroach Cockroach, Cl:142 Oriental dancing Dancing with picture, D:24 Oriental fruit fly Fruit fly, F:476 Oriental furniture Furniture, F:495 with pictures Oriental philosophy Philosophy, P:422 Oriental pickling melon Melon (Types of melon), M:338 Oriental plane Plane tree, P:532 Oriental poppy Poppy, P:682 Oriental porcelain Porcelain (History of porcelain), P:689

Oriental realm

Oriental rug

Bird (The distribution of birds), B:319

Rugs and carpets, R:451 with picture

Orenda Indian, American (Beliefs), I:148 Oreste ipiay by Alfieril Alfieri, Vittorio, A:249 Orestela | play by Aeschylus|

Orléans, 0:504

Orléans, Louis Philippe Joseph

Oriente Orléans, O:505 with picture Oriente Orpheus in the Underworld lapanets Orléans, Louis Philippe Robert Bolivia (The land), B:428 Orléans, 0:505 by Offenhachl Ecuador (The Eastern Lowland), E:70 Orléans, Philippe, Duke of (1640-1701) Offenbach, Jacques, 0:415 Orienteering, 0:497 Orr. Bobby (Canadian ice hockey Hiking, H:202 [French nobleman] player, 0:506 with portrait Orifice meter Orléans, 0:504 Orléans, Philippe, Duke of (1674-1723) Orrefors glass Water meter, W:87 Glass (Types of art glass), G:198 Origami, 0:497 with picture (French nobleman) Orrery Japan (Other arts), 1:46 Orléans, 0:505 Paperwork (Paper handlcrafts), P:138 Planetarium (Forms of planetariums) Orléans [France], 0:505 Ormandy, Eugene (American conduc-P:539 Origin of Mammai Eggs, The book by Orrisroot (botany), 0:506 torl. 0:505 Rapel Ortega v Gasset, José | Spanish philos Ormand Ibook by Edgeworth) Baer, Karl Ernest von, B:25 Edgeworth, Maria, E:76 opherl. 0:506 Origin of Species, The book by Dar-Spanish literature (The Generational Ornament See Art and the arts; Clothing; Gem; 1898), So:197 Archaeology (The 1800's), A:504 Ortega, Daniel (Nicaraguan political Biology (The theory of evolution), **lewellery** Ornamental garden leaderl. 0:506 with portrait 8:307 Nicaragua (Recent developments). Gardening, G:34 with pictures Darwin, Charles Robert, D:39 N:196 Evolution (Darwin's theory), E:412. Ornamental grass Ortellus, Abraham [Flemish mapmiker Grass (Kinds of grasses), G:302 Heredity (Early ideas about heredity). Map (Advances in European cartogra-Ornamental plant phyl. M:191 Floriculture, F:233 Races, Human (Evolutionary theory), Orthoclase [mineral] Ornithischian Feldspar, F:49 Science (Scientific advances of the Dinosaur, D:180 Orthodontics (dentistry), 0:507 1800'd \$-148 Ornitholestes Dentistry, D:120 Social Darwinism. So:3 Dinosaur picture on, D:179 Teeth (Maiocclusion), T:95 Zoology (History), Z:506 Ornithology, 0:505 Orthodox Churches, Eastern Orlnoco River (South America), 0:498 Biology (What biologists study), B:305 See Eastern Orthodox Churches Bird (Bird study and protection), B:354 Llanos, L:342 Orthodox lew Radar (In scientific research), R:57 South America, So:92 Israel (Religion), L:432 Oriole, 0:496 with picture Science (Other branches), S:141 Judaism, £155 Ornithomimus Bird picture on, B:329 Religion (Judaism), R:201 Dinosaur (Theropods), D:177; picture Orion [constellation], 0:498 **Orthodox Muslims** Astronomy picture on, A:688 on D:179 Sunnis, So:426 Betelgeuse, B:263 Ornithopod **Orthogneiss** Dinosaur (Ornithischians), D:180 Rigel, R:276 Gnelss, G:217 Orion (Greek mythology), 0:498 Ornithopter, 0:505 Orthopaedics, 0:507 Orissa (Indial, 0:498 Aeropiane (Early experiments and Medicine (The specialities), M;311 Oriya ideas), A:76 Surgery (Other specialized fields) India, Languages of (Modern Indo-**Ornithosis** So:439 European languages), 1:123 Psittacosis, P:825 Orthoptera Orizaba, Pico de Imountain in Mexicol. **Orontes River** Insect pictures on, 1:242; (table) 1:261 0-502 Lebanon (Land and climate), L:146 Orthorhombic crystal Orkney (Scotland), 0:502 with picture Syria (The valleys and plains), So:523; Crystal (Classifying crystals), Cl:469 and map picture on So:524 with picture Oroville dam See also list of Related Articles Orvieto lace Arms picture on, A:589 Dam (Some important dams), D:14 Crocheting, Ci:446 Orwell, George (British author), 0.507 Orozco, José Clemente (Mexican Orkneyinga Saga Orkney (History), 0:504 painterl, 0:505 with picture with portrait Orlando (U.S.A.), 0:504 Painting (Fresco painting), P:40 with Essay, E:330 Orlando Furioso (poem by Ariosto) Ory, Kld [American jazz musician] picture; (Mexican painting) P:83 Ariosto, Ludovico, A:566 Orpen, Sir William (Irish painter), Jazz (The golden age), J:75 Italian literature (Humanism and the 0:506 Orycteropus afer Renaissance), 1:445 Orphan, The [play by Otway] Aardvark, A:2 Orlando, Vittorio Emanuele Italian Otway, Thomas, 0:521 Огух, 0:507 political leaderl, 0:504 Orphanage Os (symbol) Versailles, Treaty of, V:349 Children's home, C:413 Osmium, **0:511** Orlando [book by Woolf] See also Foster parents Os Sertões (book by Cunha) Woolf, Virginia, W:313 Orpheus and Eurydice lopera by Cunha, Euclides da, Cl:498 Osage orange, 0:508 with picture Orléans, Battle of Glucki Osaka IJapanl, O:508 with picture Gluck, Christoph Willibald, G:215 Army (table: Famous land battles), Orpheus [Greek and Roman mythology], A:593 Osaka Castle England (The Hundred Years' War), C-506 Castle picture on, C:240 Osborne, John (British dramatist), F:276 Argonauts, A:565 Oriéans, Louis, Duke of French noble-Cerberus, C:327 Drama (Later British drama), D:301 Eurydice, E:401 man) Osbourne, Fanny [wife of Stevenson]

Mythology (Greek divinities), M:757

Sculpture(European sculpture), S:212

Stavenson, Robert Louis (Marriage). So:321

Orcan (language), O:509

Film industry (Festivals and awards). F95 with picture

Oscillation

Electromagnetic waves, E:176 Electronics (Solid-state components).

F:189 (Terms used in electronics). F:185

Pendulum, P:253

Oscillator

Organ (Ejectronic organs), O:494

Radar, R:60 with diagram

Oscillograph

See Oscilloscope

Oscilloscope (instrument), O:509 with

Electrocardiograph, E:173

Electroscope, E:195 Engine analyser, E:253

Instrument, Scientific, 1:268

O'Shane, Pat [Australian lawyer], O:509

Otier, 0:509 Willow, W:260

Osiris (Egyptian god), O:509 with picture

Isis 1:412

Mythology (The Great Ennead), M:754; (The Osiris myth) M:754 with picfurne

Orier, Sir William [Canadian doctor], 0:510 with picture

0slo [Norway], 0:510 with picture Norway, N:291 with picture

Osmeña, Sergio, O:511

Osmium (element), O:511

Osmosis, O:511 with diagrams

Fish (How fish adjust to change), F:175 Plant (Water movement), P:561

Water (Reverse osmosis), W:79

Osmotic pressure

Osmosis (How osmosis works), 0:512 OSO [satellite]

Satellite, Artificial (Important satellites), S:96

Osprey, O:512 with picture

Osslanic cycle

Mythology (Fenian cycle), M:760

Ossicle Deafness (Types of hearing disorders),

Ear (The middle ear), E:7 with diagram Ossining Correctional Facility

Sing Sing, S:432

Ostan

Iran (Local government), 1:332 Ostelchthye

Fish (table), F:179

Orteltis fibrosa cystica

Sone (Bone disorders), B:447

Ostend (Belgium), O:513

Osteoarthritis

Arthritis, A:606 with picture Disease (Arthritis), D:193

Osteoblast

Bone (Composition of bone), B:446 Orteoclast

Bone (Composition of bone), B:446

Osteocyte

Bone (Composition of bone), B:446

Osteoderm

Alligator (Body), A:275

Reptile (Skin), R:232

Osteolepis (extinct fish)

Prehistoric animal picture on, P:745

Osteology, 0:513

Osteomalacia

Bone (Bone disorders), B:447

Rickets, R:271

Osteomyelitis Idisorderl, O:513

Osteopathic manipulative treatment (OMT)

Osteopathic medicine, 0:514

Osteopathic medicine, 0:513 with picture

Osteopathy

See Osteopathic medicine

Osteopetrosis

Osteosclerosis, 0:514

Osteoporosis [disorder], O:514

Bone (Bone disorders), B:447 Nutrition (Other diseases), N:368

Osteoscierosis (disorder), 0:514

Osterley Park House [London]

Adam (Country houses), A:29 Architecture (Neoclassical architecture), A:529

Ostracism

Cleisthenes. Cl:73

Ostracoderm

Fish (The first fish), F:178

Ostrava (Czech Republic), 0:514

Ostrich, 0:514 with pictures

Animal (Fighting), A:404; picture on A:396

Bird pictures on, B:316, B:342

Ostrogoths [people]

Goths, G:264

italy (The Middle Ages), 1:466

Theodoric, T:213

Ostrovsky, Alexander (Russian dramatist

Drama (Russian drama and Chekhov), D:298

Russian literature (Early realism), R:499 Ostwald process

Nitric acid, N:221

Ostwald, Wilhelm (German chemist), 0:516

Chemistry (Development of physical chemistry), C:371

Nitric acid, N:221

Oswald, Lee Harvey, 0:516

Kennedy, John Fitzgerald (The death of Oswald), K:218

Warren Report, W:40

Oswestry [England], 0:516

Ota Dokan [Japanese warrlor]

Tokyo (Early development), T:287

Otago Association

New Zealand, History of (Colonization), N-169

Otello lopera by Rossinil Rossini, Gioacchino Antonio, R:404 Otello opera by Verdi Bolto, Arrigo, B:423

Opera (Giuseppe Verdi), 0:464

Verdi, Giuseppe, V:345

Othello play by Shakespearel Shakespeare, William, S:318; (Rhetoric)

S:323: pictures on S:309. S:326

Other Main-Travelled Roads book by Carlandi

Garland, Hamlin, G:44

Other World, ... of the Moon, The [book by Cyrano de Bergerac]

Ovrano de Bergerac, Savinien de, Ci:515

Otherwise Engaged [play by Gray] Gray, Simon, G:310

Otis, Elisha Graves |American inventor|. 0:516

Lift (History), L:255

Otitis media (disorder)

Deafness (Causes of hearing disorders), D:55

Fac (Diseases), E:12

Otolaryngology

Medicine (The specialities), M:311 Surgery (Other specialized fields), So:439

Ear (The inner ear). E:8

Fish (Other senses), F:171

O'Toole, Patrick (Irish political leader),

O'Toole, Peter [irish actor], O:516 Otoscierosis (disorder)

Deafness (Causes of hearing disorders), D:55

Ear (Diseases), E:12

Otoscope linstrumentl, O:516 with pic-

Medicine picture on, M:307

Ottawa (Canada), O:517 with pictures

Otter, 0:518 with pictures Animal picture on, A:386

Fur (table), F:488

Otter [island]

Pribilof Islands, P:774

Otter hound, 0:518 with picture

Otter trawl [fishing]

Haddock, H:4

Otto lessential oill

Attar. A:732

Otto I [king of Greece], 0:519

Greece, G:342

Otto I, the Great [Holy Roman emperor] Otto, 0:519; Austria (Early years),

A:865; Germany (The breakup of Charlemagne's empire), G:130 with picture; Holy Roman Empire, H:251; Middle Ages (Feudal gov-

ernment), M:447 Otto II (Holy Roman emperori

Otto, 0:519

Otto III lking of the Germans], O:519 Otto, Nikolaus August iGerman Inven-

Petrol engine (Development of the petrol engine), P:334

Ottoman Empire, 0:519 with pictures

Albania (History), A:230 Algeria (Ottoman rule), A:265

Arabs, A:493

Bedfordshire, B:182 with picture

Cambridgeshire (The land), C:50

Outward Bound Trust, 0:524 with nice Armenia (History), A:580 Out of Africa (work by Dinesen) Dinesen, Isak, D:173 Azerbaijan (History), A:897 Outwood Mill (England) "Out of the Cradle Endlessly Rock-Berlin, Congress of, B:255 Ing" [poem by Whitman] Surrey (Places to visit), So:444 Bosnia-Herzegovina (History), B:475 Whitman, Walt (His work), W:239 **Oval window** Croatia (History), Ci:446 Ear (The middle ear), E.7 with diagram Egypt (Turkish and French control), Out of the Dark book by Kellerl Keller, Helen Adams, K:209 Ovary lanatomyl, 0:524 E:116 Butterfly (The reproductive system) **Outback Australia** Eritrea (History), E:320 See Northern Territory B:687 Greece (Ottoman Turkish rule), G:341 Chicken (Producing eggs), C398 Outback Istanbul, 1:441; (History) 1:442 Endometriosis, E:244 Australia (Language), A:751 Janissaries, J:29 Fish (Reproductive system), F:170 Iordan (Arab and Ottoman rule), J:144 Outboard motor, 0:522 with picture "Outcasts of Poker Flat, The" (book by Gland (table), G:182 Macedonia (History), M:9 Human body (The reproductive sys-Moldova (Ottoman and Russian rule), Hartel M:529 American literature (Realists), A:315 tem), H:358 Insect (Reproductive system), I:251 Montenegro (History), M:575 **Outcault, Richard Felton | American** Menopause, M:348 Muhammad II, M:687 cartoonist, 0:523 Menstruation (The menstrual cycle), Cartoon (Modern cartooning), C:220 Russo-Turkish wars, R:503 Mr.349 Serbia (History), S:268 Comics (History), Cl:217 Suleiman I, So:397 **Outdoor air pollution** Progesterone, P:795 Reproduction, Human (In females), Turkey (History), T:462 with map Environmental pollution (Air pollu-World, History of the (The Islamic emtion), E:301 R:225 Ovary [botany] **Outdoor lighting** pires), W:351 Flower (The pistils), F:262; (Fertiliza-Yugoslavia (History), Y:473 Photography picture on, P:446 **Ottowa Indians** Outer bark tion) F:264 Fruit (How botanists classify fruits), Pontiac, P:668 with picture Bark, B:110 Otway, Thomas English dramatistl, Outer core E/174 Maize (How the plant reproduces), 0:521 Earth (Inside the earth), E:20 Drama (European drama: 1660-1800), Outer ear M:72 Plant (Flowers), P:555 with diagram in D:294 Ear (Parts of the ear), E:7 with picture flowering plants) P:356 with dir Ouagadougou (Burkina Faso), O:521 Outer Hebrides (islands, Scotland) grams Burkina Faso, B:653 Hebrides, H:131 Pollen (Fertilization), P:656 **Oualata** [Mauritania] **Outer Mongolla** Seed (Kinds of seeds), S:235 Walata, W:9 See Mongolia **Qubangui River** Over **Outer Space Treaty** Cooking (Methods of cooking), Class See Ubangi River Disarmament (History), D:186 (History) Cl:335 Oudtshoom [South Africal, 0:521 Outfield Ovenbird, 0:525 with picture Ouedraogo, Youssouf (Burkina Faso Baseball, B:126 See also Warbler political leaderl Outlaw, The [film] Ovens River (Australia) Burkina Faso (History), B:655 Hughes, Howard Robard, H:342 Victoria (Rivers and lakes), V:362 Oulja board, 0:522 with picture **Oulujoki River** See Bandit with its list of Related Arti-Cricket (The fielding side), Ch428 Finland (Rivers), F:119 Over-the-horizon radar Ounce lunit of measurel, 0:522 Outline, 0:523 Radar (Air defence), R:55; (How rider Apothecaries' weight, A:473 Outline of History, The Ibook by Wells works) R:58 Duodecimal numerals, D:351 Wells, H. G., W:148 Over-the-horizon radio relay system Ounce [wild cat] Telephone (Long-distance lines), Till Outpatient expense insurance Snow leopard, \$:523 Insurance (Basic types of health insur-Overactive thyroid Our Air Force (book by Mitchell) ance), I:273 Thyroid gland, T:235 Mitchell, Billy, M:516 Output Our Inner Conflicts (book by Horney) Overburden Coal (How coal is mined), Ct123 Industry, 1:220 Iron and steel (Opencast mining), 134 Horney, Karen, H:283 Output per worker-hour **Our Lady of Guadalupe** Wages and hours (Wages), W:2 Mining (Open-cast mining), MA93 Guadalupe Day, G:390 Output stage Weight control (Causes of obesity) Overeating Our Lady of Peace [church] Electronics (How an electronic system Ivory Coast picture on, 1:476 works), E:185 W:133 Our Man in Havana lopera by William-Outrageous Acts and Everyday Re-Overgrazing Soil (Soil conservation), Soc22 bellions (book by Steinem) Williamson, Malcolm, W:259 Steinem, Gloria, So:313 Overhead projector Projector, P:799 with pictures Our New Selection [book by Rudd] Outrigger boat, 0:524 with pictures Overland telegraph (Australia) 0:33 Rudd, Steele, R:442 Rowing, R:414 Northern Territory (History), N:284 Our Partnership (book by Webbs) Outside calliper linstrumentl Webb, Sidney and Beatrice, W:127 Calliper, C:42 Todd, Sir Charles, T:273 Overlanders (Australian history) 035 Our Town |work by Wilderl Outsider, The [book by Wilson] See also list of Related Articles American literature (Drama), A:318 Wilson, Colin, W:261 Squatters in Australia (Victoria), Wilder, Thornton Niven, W:250 Outsider Ouse Irivers, Englandi, O:522 Horse racing (Betting), H:308 So:252 Outsiders, The [book by Hinton]

Hinton, S. E., H:216

Overlapping set

Set theory (Intersection of sets), S:276 with diagram; (Overlapping sets and disjoint sets), S:275; (Union of sets), S:275 with diagram

Overloaded Ark, The (book by Durrell)
Durrell, Gerald, D:356

Overlord [law]

Eminent domain, E:230

Overpopulation

See Birth control; Population

Overseas calls

Telephone, T:108

Overspill town

Essex (Local government), E:332

Overtone

Harmonics, H:62

Pitch, P:524

Sound (Sound quality), So:49

Overture (music), O:526

Overweight

Disease (Nutritional diseases), D:194
Weight control, W:133

Ovett, Steve (British athlete), O:526 Ovid (Roman poet), O:526

Latin literature (The Augustan Age),

tin literature (The Au

Narcissus (Greek mythology), N:24

Oviduct

Bird (The reproductive system), B:353

Butterfly (The reproductive system), 8:667

D:00/

Chicken (Producing eggs), C:398 Insect (Reproductive system), I:251 See also Faliopian tube

Oviparous animal, O:526

Ovipositor

Fish (How fish reproduce), F:176 Grasshopper (The body), G:304 Ichneumon wasp, I:24 Insect (Abdomen), I:250

Ovulation

Hormone (Uses of hormones), **H:280** Destrous cycle (Hormonal regulation), **0:414**

Reproduction, Human (In females), R:225

Test tube baby (Techniques), T:161
with diagram

0vule

Poilen (Fertilization), P:656

Egg (Development of a bird's egg), E:98

Embryo (Fertilization), E:226

Reproduction, Human, R:225; (Fertilization) R:227

Owen, Daniel [Weish writer]

Welsh literature (Later literature), W:151

Owen, David (British politician), O:527
Social Democratic Party (SDP) (History),
Social

Owen, Goronwy (Welsh poet), O:527
Welsh literature (Later literature),
W:151

Owen, Robert (British social reformer)
Owen, 0:526 with portrait

Owen, Robert Dale (American legislator) Owen, 0:527

Owen, Wilfred (British poet), 0:527 Britten, Benjamin, B:582

Owen Falls dam

Dam (table), D:13

Lake Victoria, L:30 with map

Owen Glendower book by Powysl Powys (John Cowper), P:733

Owen Gun (weapon), 0:527

Owens, Jesse [American athlete], 0:528 with portrait

Athletics (The early and mid-1900's),

Olympic Games (The modern games),

O:436 with picture

Owl, O:528 with pictures

Animal pictures on, A:386, A:402 Bird picture on, B:352

Owlet moth

Moth (Kinds of moths), M:642

Ownership

Title, **T:267**

Ox, O:531

See also list of Related Articles

Oxalic acid, 0:531

Rhubarb, R:258

Oxalis, O:531 with picture

Oxbow lake, 0:531 with picture River (The channel of a river), R:289

Oxen

See Ox

Oxenstierna, Axel Gustafsson (Swedish statesman), 0:531

Oxford lEnglandl, 0:532 Oxford University, 0:532 Oxfordshire (Places to visit), 0:534 with picture

Oxford Companion to English Literature, The (work by Drabbie)

Drabble, Margaret, D:278
Oxford English Dictionary

Dictionary (Modern dictionaries),

Fowler, Francis George, F:377 Oxford Movement (religion), O:532

Newman, John Henry Cardinai, N:179 Tractarians, T:323

Oxford University, 0:532 with picture Architecture picture on, A:532 England (The beginnings of Parlia-

ment), E:275 Europe *picture on*, E:367 Penn, William (Youthful rebel), P:260 Rhodes Scholarship, R:256

United Kingdom, Educational system of the (Oxford and Cambridge),

United Kingdom (Education), U:52
Oxfordshire |England|, O:533 with pic-

tures and map
See also list of Related Articles
Arms picture on, A:586

Oxidation, 0:535 with pictures
See also list of Related Articles
Electrolysis (How electrolysis works),

Fire (What is fire?), F:125 Heat (Chemical reactions), H:116 Paint (Household paints), P:23 Reduction, R:176

Rust, R:504

Oxide [chemical compound], 0:536 Ore, 0:492

Oxidizer

Fuel, F:477

Fuel cell, F:479

Rocket (Rocket propellant), R:317; (Liquid propellant rockets) R:320

Space exploration (Space exploration terms), So:130; (Overcoming gravtry) So:133

Oxley, John [Australian explorer], 0:536

with portrait

Brisbane (History), B:575

Queensland (Early settlement), Q:25

Oxyacetylene flame (welding) Acetylene, A:22 with diagram Welding (Gas welding), W:143

Oxygen, O:537

See also list of Related Articles
Air (The study of air), A:188
Circulatory system (in respiration), Cit7

Element, Chemical, E:195

Human body (The exchange of carbon dioxide and oxygen), H:356 with diagram

Priestley, Joseph, **P:776** Respiration, **R:239**

Oxygen lance (industry)

Iron and steel (The basic oxygen process), 1:392 with diagram; (The open th process) 1:394 with diagram

Oxyhaemoglobin

Haemoglobin, H:5

Oxytocin

Hormone (Other hormones), H:279 Hypothalamus, H:417

Oyo (African history)

Nigeria (Early kingdoms), N:213

Oyster, 0:539 with pictures and map Aquaculture, A:483

Essex (Customs), E:332

Mollusc, M:535 Mother-of-pearl, M:544 with picture Pearl (How pearls are formed), P:233

with picture and diagram; (Cultured pearls) P:234 with pictures

Oyster plant

Salsify, S:55 with picture

Oystercatcher, 0:541 with picture

Oz, Amos (Hebrew writer)

Hebrew language and literature (Hebrew literature today), H:131

Özai, Turgut [Turkish political leader]
Turkey (Recent developments), T:465

Ozalid process (document copies), O:542

Ozark-Ouachita Highlands United States, U:210

Ozawa, Selji (japanese conductor), O:542 with portrait

Ozokerite

Wax (Mineral wax), W:106

Ozone, 0:542

Aerosol, A:107

Air pollution (Forms of transportation),
A:202

Antarctica (Antarctica today), A:446 Catalysis, C:255 Environmental pollution (Outdoor air pollution), E:301 Nitrogen (Nitrogen and pollution), N:223 Oxygen (Chemical properties), 0:537 Smog (Photochemical smog), S:500 Ultraviolet rays (Harmful effects), U:19 Weather (Geographical features), W:115 Ozone **Environmental pollution (Controlling** pollution), E:306 Environmental pollution (Kinds of environmental pollution), E:303 with diagram Ozonizer Ozone, 0:542 P [letter], P:1 P. K. Le Roux dam Dam (Some important dams), D:14 Pa [symbol] Pascal, P:208 Protactinium, P:812 Paarl (South Africal, P:2 Paca Irodentl, P:2 with picture Pacelli, Eugenio Pius XII, P:529 **Pacemaker** Arrhythmia, A:599 Heart (Regulating the heart rate), H:103; (Abnormal heart rhythms) H:109 Medicine picture on, M:318 Pachacuti (inca ruler) Inca (History), 1:51 Pachomius, Saint, P:2 Monasticism (Christian monasticism), M:544 Religious life (The Roman Catholic Church), R:208 Pachyderm (zoology), P:2 Elephant (Skin and hair), E:204 Pacific barracuda Barracuda, B:118 Pacific Basin Canada, C:85 Pacific bonito Bonito, B:450 with picture Pacific cable Fleming, Sir Sandford, F:226 Pacific Coast United States picture on, U:211 Pacific Coast States Region [U.S.]

United States, U:191

Fish picture on, F:161

Ci:146

Pacific halibut

Cod (Cod fishing and marketing),

Pacific Islands, P:2 with pictures and

Pacific cod

map

Mythology, M:761 Prehistoric people (The spread of settlement), P:758 Sculpture, \$:204 with pictures Pacific Islands, Trust Territory of the See Caroline Islands; Mariana Islands; Marshall Islands; Palau Islands Pacific Lowlands Colombia (The land), Cl:172 Pacific Northwest Mexico, M:409 Pacific Ocean, P:14 with map Ralhoa, Vasco Núñez de, B:37 El Niño (current), E:219 Fishing industry (Pacific Ocean and Indian Ocean fisheries), F:189 Magellan, Ferdinand, M:43 Pacific pompano Pompano, P:664 Pacific Ranges and Lowlands [U.S.] North America (Land), N:250 United States, U:211 **Pacific Region** Nicaragua, N:193 Pacific Rim, P:17 Pacific yew Yew, Y:452 Pacifism, P:17 Pack ice See Ice pack Pack rat Wood rat, W:302 with picture Package policy Insurance (Homeowners' insurance), 1:274 Package tours Tourism (Modern mass tourism), T:314 Packaging, P:18 Brewing picture on, B:555 Cellophane, C:306 Food, F:299 Food, Frozen, F:304 Food preservation (Aseptic packaging), Milk, M:469 Paperwork (Wrapping paper), P:138 Plastics (To replace paper), P:578 with picture Space exploration (Eating and drinking), So:137

Space exploration (Eating and drinking), So:t37

Packer, Kerry Francis Bulimore (Australian publisher), P:18

Packer, Sir Frank (Australian publisher), P:18

Packet ship
Ship, S:370 with picture

Packing
Vegetable, V:323

Packwood House (England)
Warwickshire (Places to visit), W:49

Pact government (South Africal
South Africa, History of, So:84

Paddington
See Westminster, City of

Paddle steamer, P:18 with picture

Paddlefish, P:18 with picture

Horse racing (The start), H:308

Paddock

Paddy Indonesia picture on, 1:182 Irrigation (Flood irrigation), 1:407 Rice (Kinds of rice), R:263; (How rice); grown) R:264 with pictures Vietnam picture on, V:374 Pademelon [animal], P:19 Kangaroo, K:186 with picture Paderewski, Ignace Jan [Polish pianistl. P:19 Padlock Lock, L:350 with picture Padre Island (U.S.A.) Texas (The Basin and Range Region), T:167 Padua [Italy], P:19 Paediatric dentistry Dentistry, D:120 Paediatrician Medicine (Specialists), M:308 Paediatrics, P:19 Paediatrics (medicine), P:19 Medicine (The specialities), M:311 Paektu-san (mountain) Korea (The Northern Mountains), K:325 Paella [food] Spain (Food and drink), So:173 Pagan [ancient city] Burma (The arts), B:659; (Early days) B:660 Pagan [island], P:19 Paganica Golf (Beginnings), G:250 Paganini, Niccolò (Italian musiciani, Page (European history) Knights and knighthood (Training), K:100 Page makeup Printing, P:781 Page, Sir Earle |Australian politician| P:20 Pageant, P:20 Pageant of Letters ipoetry by Noyel Noyes, Alfred, N:317 Pageant wagon [drama] Drama (Medieval drama), D:288 া picture Pagliacci [opera by Leoncavallo] Leoncavallo, Ruggiero, L181 Opera, 0:472 Pago Pago

Pagliacci lopera by Leoncavallo, Leoncavallo, Rugglero, L:181
Opera, O:472
Pago Pago
American Samoa, A:329 with picture and map
Pagoda, P:20
Architecture (Chinese architecture), A:518
Burma (The arts), B:659; picture on B:656
China (Architecture), C:448

Nepal picture on, N:76
Temple, T:138
Tower, T:313
Pahang [Malaysial, P:20 with picture and map
Pahlavi, Mohammad Reza
See Mohammad Reza Pahlavi
Pahlavi, Reza Shah

See Reza Shah Pahlavi Pahoehoe

Volcano (Kinds of volcanic materials),

V:417

Paignton [England], P:21 Paila marina [food]

Chile (Food and drink), C:418

Paln. P:21

See also list of Related Articles Paine, Thomas [English-born revolu-

tionary), P:22 with portrait

American literature (The revolutionary

period), A:311 Declaration of Independence (Events leading to the Declaration), D:72

Rationalism, R:143

Paint applicator

Paint, P:26 with pictures Paint, P:23 with pictures

See also list of Related Articles Painting (Painting materials), P:38

Woodworking (Sanding and finishing), W-307

Paint brush

Paint (Applying the paint), P:25 with

Painting (Painting materials), P:38 with picture; (Watercolour painting)

P:41

Paint pad Paint, P:26 with picture

Paint roller

Paint, P:26 with picture

Paint thinner Paint, P:23

Painted Bird, The (book by Kosinski) American literature (Fiction and other prose), A:320

Painted bunting [bird] Bunting, B:645

Painted cup (plant)

Indian paintbrush, 1:171 Painted Desert (U.S.A.), P:27 with pic-

ture Painted lady (butterfly), P:27 with picfure

Butterfly picture on, B:683

Painted Word, The book by Wolfel Wolfe, Tom, W:288

Painter [artist], P:27

Painter's colic, P:27

Painting, P:28 with pictures See also list of Related Articles Abstract expressionism, A:16

Baroque, B:116

Enamel (Decorative enamelling techniques), E:234

Finger painting, F:110 with picture Gothic art (Gothic sculpture and painting), G:264

Hobby (Kinds of hobbies), H:236 with picture

impressionism, **i:46**

Islamic art picture on, 1:420 Pop art, P:672 with picture

Porcelain (Decorating porcelain), P:688

Romanticism (Romanticism in paint-Ing), R:360

Rome, Ancient, R:376

Painting ground

Painting, P:40

Painting support Painting, P:39

Pair skating

Ice skating (Figure skating), I:15 with pictures

Roller skating (Artistic skating), R:334

Paisley [Scotland], P:90

Paisley, Ian Northern Ireland Presbyterian ministerl. P:90

Pak Sako

Ishak, Haji Muhammad, 1:412

Pakehas [people]

Maoris (Maoris today), M:179 New Zealand, N:153; (People) N:154

Pakenham, Elizabeth

Longford, Countess of, L:380

Pakenham, Francis Aungier Longford, Earl of, L:379

Pakistan, P:91 with pictures and maps See also list of Related Articles Asia (Way of life in South Asia), A:633 (The end of colonialism) A:659;

map on P:661; (Other struggles) P:653

Aviation (Aircraft nationality marks), A-881

Bangladesh (British India), B:88 Cricket (Cricket in Pakistan), Cl:434

Hockey, H:239

Immigration (1945-1960. Easing of immigration rules), 1:37

India, History of (World War II), I:117; (Relations with Pakistan) 1:118

Indus River, 1:206 with map lgbal, Sir Muhammad (Indian scholar), 1:330

Islamabad, I:417

Jammu and Kashmir (History), J:27 Jinnah, Muhammad Ali, J:119

Karachi, K:193

Khyber Pass, K:243 with picture

Police, P:642 Village, V:393

Pakistan People's Party

Bhutto, Benazir, B:269 Bhutto, Zulfikar Ali, B:269

Pal Joey [book by O'Hara]

O'Hara, John, O:417

Pal Joey (musical by Rodgers)

Hart, Lorenz, H:69

Musical comedy (Musical comedy matures), M:739

Rodgers, Richard, R:330

Pala dynasty (Indian rulers) West Bengal (Early empires), W:160

Palace at 4 A.M., The isculpture by

Giacometti] Sculpture (Assemblages), 5:216 with

Palace at 4 A.M. (sculpture by Glaco-

Glacometti, Alberto, G:151

Palace of Minos (book by Evans) Evans, Sir Arthur John, E:402

Palace of the Winds (jaipur) Jaipur picture on, J:12

Palaeo-Siberian (people)

Arctic (In the Siberian arctic), A:543

Palaeocene Epoch

Earth (The Cenozoic Era), E:28; (maps) F:31: (table) E:30

Palaeoecology

Geology (table), G:92

Palaeography [handwriting], P:100 Palaeolithic Period

Prehistoric people (The first human beings), P:751

Palaeomagnetism

Plate tectonics (Evidence of plate movement), P:585

Palaeontology (geology), P:101

Cuvier, Baron, Ci:508

Fossil (How fossils reveal the past), E-REH

Geology (table), G:92

See also Fossil

Prehistoric animal (The study of prehistoric animals), P:748

Science (Other branches), 5:141 Zoology (What zoologists study), 7:506

Palaeozoic Era

Australia (Geology), A:767 Earth (The Palaeozoic Era), E:27 Prehistoric animal (The world of prehistoric animals), P:743; (Early forms of animal life) P:744 with picture

Palais Garnier

Architecture picture on, A:532

Palais Stoclet [Belgium]

Architecture (Early modern architecture in Europe), A:532 with picture

Klimt, Gustav, K:296

Palanquin [vehicle], P:101 Palate lanatomyl, P:101

Cleft palate, CI:72

Throat, T:230 Tongue, T:296

Palatinate [German history], P:101

Palatine bone (anatomy) Face, F:3

Palatine Hill

Rome, Ancient (History), R:377

Palatine tonsii Tonsil, T:296

Palau Islands |Pacific Ocean], P:101 with picture and map

Caroline islands, C:206

Pacific Islands (Recent developments),

World War II (Island hopping in the Central Pacific), W:398

Palawan (island)

Philippines (The main islands), P:380

Pale Fire book by Nabokovi American literature (Fiction and other

prose), A:320

Nabokov, Vladimir, N:2 Pale Horse, Pale Rider book by Porter

Porter, Katherine Anne, P:697 Palearctic realm

Bird (The distribution of birds), B:319

Palermo [Sicily], P:102

Sicily, S:408

Palladian Revival

Palladian style

Architecture, A:528 with picture

Furniture (English styles), F:502

Northern Territory (Government). P:105 with picture Palestine, P:102 with maps N-279 Architecture (Later Renaissance archi-Balfour Declaration, B:40 Palmerston North New Zealand), tecture). A:527 with picture; (The Crusades, Ci:462 P:109 Palladian Revival) A:529 Iordan (The Palestinian conflict), J:144 Palmerston, Viscount English states lones, Inigo, J:139 Philistines, P:416 manl. P:109 Palladium (element), P:106 Zionism (Movement to Palestine), Palmetto [botany], P:109 Palladium black Z:499: (The Balfour Declaration) Cabbage palm, C:3 Palladium, P:106 Palmistry, P:109 Pallac See also Israel Divination, D:205 See Athena **Palestine Liberation Organization** Fortunetelling (Methods of fortune Pallet lever (PLO), P:105 teiling), F:366 Watch (Mechanical watch), W:66 Algeria (Recent developments), A:266 Palmyra (ancient Syrian city), P/110 Pallid cuckoo Arabs (The Arab-Israeli conflict), A:493 Syria picture on, So:524 Cuckoo, Cl:486 Arafat, Yasir, A:495 Palmyra palm, P:110 Pallium (srael (The rise of the PLO), 1:439; (Inva-Palm (Products of palms), P:107 Pope (Titles, clothing, and symbols), sion of Lebanon) 1:440; (Recent Palo Alto, Battle of P:674 developments) 1:440 Mexican War (Principal battles), M3% Palm [tree], P:106 with pictures Jordan, J:141; (Relations with the West Palomar Observatory, P:110 with pic See also list of Related Articles Bank) J:145 ture Doum palm, D:274 Lebanon (Internal conflicts), L:147 Annealing, A:425 Manuscript (Palm leaf manuscripts), Middle East (Attempt at peace), M:456 Observatory (table), 0:382 M:172 Middle East (Continuing conflict), Quasar, Q:9 Tree (Palm, pandanus, and lily trees), M:456 Palomino horse T:376; pictures on T:375 Middle East (Recent developments), Horse, H:289 picture on H:288 Palm cockatoo M:457 Paloverde, P:110 Parrot (Kinds of parrots), P:200 Palestine (The continuing conflict), Palpi Palm Island [Australia], P:107 P:104 Grasshopper (The body), G:304 Palm leaf etching United Nations (Arab-Israeli conflicts), Palpitation Orissa (Local crafts), 0:499 U:175 Tachycardia, T:4 Palm nut vulture West Bank (History and Government), Palsy, P:111 Vulture (Old World vultures), V:429 W:157 Parkinson's disease, **P:189** Palm oil, P:107 with picture Pamela; or, Virtue Rewarded book Palestinians [people] Palm Springs (U.S.A.), P:108 Arabs (The Arab-Israeli conflict), A:493 by Richardsonl Paim Sunday, P:108 with picture Fielding, Henry, F:71 Easter, E:43 with picture Gaza Strip, G:66 Novel (The first English novelists), Jesus Christ (The Last Supper), J:99 Jordan (People), J:142; (History) J:144 Palm Sunday book by Vonnegut with picture Richardson, Samuel, R:269 Vonnegut, Kurt, Jr., V:425 Lebanon (Ethnic groups and religion), Pamirs [Asia], P:111 Palma, Tomás Estrada ipresident of L:145; (Internal conflicts) L:147 Asia (Mountains), A:645 Cubal Palestine, P:104 Pampa |South Americal, P:111 Cuba (United States control), Cl:480 Palestine Liberation Organization, Argentina, A:558 South America (The Central Plains) P:104 Palma [Spain] Spain picture on, So:170 West Bank (People), W:157 Sn:92 Palme, Olof (Swedish political leader) Palestrina, Giovanni litalian composeri, Pampas grass, P:111 Sweden (Recent developments), P:105 Pamphlet, P:111 Palette knife So:475 Pan [geology] Palmer [river, Australia], P:108 Northern Cape (Land), N:268 Knife, K:297 Paley, William [English theologian], Paimer, Arnold (American golfer), Pan [Greek mythology], P:111 P:105 P:108 Faun, F:37 Golf (table), G:248; (The rise of profes-Pall Midas, M:444 India, Languages of (Pali, Prahit, and sional golf) G:251 with picture Pan [musical instrument] Trinidad and Tobago (Culture), THG Palmer, Geoffrey [New Zealand politi-Apabhramsa), I:123 Pali Buddhism cianl. P:108 West Indies (Arts), W:167 New Zealand, History of (New Zealand Buddhism (Theravada Buddhism), Pan-Africanism since 1972), N:175 B:617 Du Bois, W. E. B., D:336 Pan-Africanist Congress of Azania Pali Canon Palmer, Nathaniel Brown | American Buddha (Followers of the Buddha), sea captain) South Africa (Political parties), \$0,50 B:614; (Theravada Buddhism) Antarctica (Discovery of a new conti-South Africa, History of (The end of nent), A:441 8-617 Exploration (Polar exploration), E:427 Palindrome, P:105 apartheid), So:86 Pan-American conferences, P.112 Palmer, Samuel [English painter], Pan American Games, P.112 F:108 Rome, Ancient (Food, clothing, and Pan American Highway, P.112 Palmer, Vance [Australian author], shelter), R:373 P:108 Toga. T:274 South America picture on, So:103 Australia, Literature of (Modern nov-

els). A:832

stories), A:832

Australia, Literature of (Modern short

Palladio, Andrea Italian architecti,

Palmerston [Australia]

Pan American Union, P:113

Pan-Malayan Congress

Goa (History), G:220 with picture Panama, P:114 with pictures and maps See also list of Related Articles Aviation (Aircraft nationality marks), A:881 Colombia (The 1900's), Ci:174 Flag picture on, F:203 Isthmus, I:443 with map Morgan, Sir Henry, M:606 Pacific Ocean (Boundaries and size),

Malaysia, History of, M:106

Panali Itown, Goal

Panama Canal, P:121 with pictures and See also list of Related Articles

Canal, C:109 Panama, P:114 with picture; (Economy) PITTE

Panama (Progress as a nation), P:120 United States, History of the (A world power), U:255 Panama Canal Commission

Panama Canal (Administration and defence), P:123 Panama Canal Zone, P:126 with map

Panama City [Panamal, P:127 Panama, P:114

Panama disease Banana (How bananas grow), B:71 Panama hat

Ecuador (picture), E:72 Panama (Clothing), P:117 Panama Hattle [music by Porter] Porter, Cole, P:696

Panama Railroad Panama Canal, P:124

Panama, Isthmus of Isthmus, 1:443 with map Panama, P:114; (Land and climate)

P:118 Panama Canal (History), P:125

Panay [island] Philippines (The main islands), P:380 Pan book by Hamsun

Hamsun, Knut, H:37 Pancake (food)

Food (Interesting facts about food), F:294

Pancake Day, P:127 with picture Mardi Gras, M:202 Shrove Tuesday, S:404

Pancasila (Indonesian philosophy), P:127

Panchatantra (stories) Fable, F:3 Panchayat Igovernmentl

India (Village life), 1:62 Panchayat Democracy

Nepal (Government), N:75 Panchen Lama

Tibet (Religion and culture), T:237;

(History and government) T:238 Pancreas (anatomy), P:127 with diagram Diabetes (Diabetes mellitus), D:151 Gland (table), G:182; diagram on G:181 Hormone (Metabolic hormones),

H:27R Human body (The small intestine and large intestine), H:355

Pancreatic juice

Digestive system (in the small intestine), D:172 with diagram

Pancreatin, P:128

Panda, P:128 with pictures Animal picture on, A:383

Pandemic

Disease (Spread of infectious diseases), D:191

Epidemic, E:312

Pandit, Vijayalakshmi (Indian stateswoman), P:129

Pandora [Greek mythology], P:129 Hesiod, H:186

Pandora's Box [play by Wedekind] Wedekind, Frank, W:129 Pandwani [poem]

Madhya Pradesh (people), M:28 Pangaea

Earth (The shaping of the continents),

Plate tectonics (The drifting continents), P:587 with diagrams

Pangborn, Clyde (American aviator) Aeropiane (Fliers of the golden age),

Pangolin (animal), P:129 Panhellenic Socialist Movement

(PASOK) Greece (Politics), G:333; (Recent devel-

opments) G:345 Panicle (botany) Inflorescence, I:232

Oats (The oat plant), 0:377 Rice (Structure), R:261 with picture

Panini lindian grammariani, P:130 Sanskrit literature (The Classical period), S:75

Panipat, Battles of, P:130 Maharashtra (Rise of the Marathas), M:67

Pankhurst, Emmeline Goulden (British social reformeri, P:130 Suffragettes, So:389

Panleucopenia

Cat (Veterinary care), C:253 Distemper, D:202 Pet (Preventing Illness), P:323

Panmunjom [Korea], P:130

Pannonian Plains Croatia (Land and climate), Ci:445

Serbia (Land and climate), S:267 Yugoslavia, Y:472

Panspermia Life (Modern theories), L:249

Pansy (plant), P:130 Panthalassa

Earth (The shaping of the continents), F:25

Pantheism [religion], P:131 Theism, T:211

Panthéon [Paris] Architecture (Neoclassical architec-

ture), A:529 Dome picture on, D:254 Paris (Famous buildings), P:181

Pantheon [Rome], P:131 Architecture picture on, A:522 Dome, D:254

Rome picture on, R:367; (Other remains) R:368

Panther [animal], P:131 Leopard, L:181 Mountain lion, M:671

Doll (The 1600's and 1700's), D:245

Pantograph, P:131 with picture Electric railways (Kinds of electric railways), E:163

Pantomime, P:131 with pictures Drama (Roman drama), D:288 See also Mime

Rome, Ancient (Recreation), R:374

Pantothenic acid Nutrition (Vitamins), N:364

Vitamin (Kinds of vitamin), V:411

Pantyceiyn, William Williams (Welsh writer

Welsh literature (Later literature), W:151

Panung

Thailand (Way of life), T:179 Panza, Sancho litterary figurel

Don Quixote, D:263 with picture

Pap test [medicine] Cancer (Preliminary diagnosis), C:122

See Pope; Roman Catholic Church

Papadopoulos, George (Greek political

Greece (The revolt of 1967), G:344; (The restoration of democracy) G:345

Papago [tribe]

Indian, American (Indians of the Southwest), 1:159

Papagos, Alexander (Greek political leader

Greece (The 1950's), G:344

Papal infallibility

Old Catholic churches, 0:426 Pope (The powers of the pope), P:673 Vatican Council I, V:318

Papal States, P:132

Papandreou, Andreas (Greek political leader Greece (Recent developments), G:345

Papandreou, George |Greek political leader

Greece (The revolt of 1967), G:344; (Re-

cent developments) G:345 Papaw

See Papaya; Pawpaw

Papaya Ifruiti, P:133 with picture Papeete

Society Islands, So:10

Tahiti, T:7

Papen, Franz von (German politician), P:133

Paper bag, P:137

Paper, P:134 with pictures Forest products (Fibre products),

Painting (Painting supports), P:39;

(Watercolour painting) P:41 Раругия, **Р:158**

Wasp (Nests), W:64 with picture

Parchment (History), P:173

World, History of the (Achievements in Paraquay (Land regions), P:164 Para nut Chinal, W:341 Brazil nut. B:546 Paraná River, P:170 Paper birch Parable [religion], P:158 Paraguay tea Birch, B:314 lesus Christ (His teaching), 1:98 See Maté Paper Chase, The book by Porter Paraguayan settlements, P:167 Literature (Forms of Literature), L:312 Parakeet [bird], P:167 with pictures Porter, Hal, P:696 Parabola (mathematics), P:158 with dia-Paper handlcraft Parrot (Kinds of parrots), P:200 Paperwork, P:138 Calculus (Finding areas), C:26 with dia-Parallax, P:168 Paper nautilus Astronomy, A:695 Bessel, Friedrich Wilhelm, B:262 Argonaut (molluse), A:565 Orbit, 0:485 with diagram Paper weaving Telescope (Reflecting telescopes). Photography (Rangefinder cameral, Weaving (Weaving without a loom), W:126 Paracelsus, Philippus Aureolus | Swiss Rangefinder, R:135 Paperback book doctorl. P:158 Star (Star size and distance), Soc291 Book (The 1800's). B:457: (Modern Drug (Scientific advances), D:318 Parallel axiom books) B:458 Gnome. G:217 Axiom. A:893 Geometry (Euclidean geometry), G:96 Publishing (Designing and printing), Magic (From the 1500's to the 1700's). Parallel bars Paperbark (tree), P:138 with picture Medicine (The Renaissance), Mr315 Gymnastics, G:441 with picture Paracetamol idrugi, P:159 Paperboard Parallel Forest products (Fibre products), Fever. F:65 Geography (Location), G:87 F:354 Parachute, P:159 with pictures Latitude, L:100 Paperwhite narcissus Airborne troops, A:204 with picture Map (Geographic grids), M:187 Narcissus, N:25 Balloon (Hot-air balloon), B:62 Parallel circuit Paperwork [decoration], P:138 Electric circuit, E:142 with diagram, Skydiving, 5:476 with picture Origami, 0:497 with picture Parachute flare (DC motors) E:154 Papiamento (language) Electricity (Transmitting electric cur Fireworks, F:140 Aruba (People), A:615 Parade, P:160 rent), E:169 Netherlands Antilles, N:101 Parade [ballet by Massine] Parallel computer Computer (Mainframes), Cl:258 Papier-maché, P:139 with pictures Massine, Leonide, M:247 Parallel Lives of Illustrious Greeks Doll (The 1800's), D:246 with picture Paradis artificiels, Les poetry by and Romans (book by Plutarch) Papilla [hair] Baudelairel Cat (Head), C:244 Baudelaire, Charles, B:158 Plutarch, P:604 Frog (Skin), F:464 **Parallelism** Paradise [religion], P:160 Whitman, Walt (His work), W:239 Hair (The structure and growth of hair). Divine Comedy, D:205 Paradise Lost [poem by Milton] **Parallelogram** Skin (Dermis), S:469 Angel, A:364 Quadrilateral, Q:4 Parallels Between the Ancient and Taste, T:65 Beelzebub, B:193 the Moderns (book by Perrault) Tongue, T:296 Doré, Gustave picture on, D:268 Papillon [dog], P:139 with picture Perrault, Charles, P:289 Epic, E:311 Papillon [film] Paralysis, P:168 Milton, John, M:476 Handicapped, H:44 Hoffman, Dustin, H:240 Paradise Lost (work by Penderecki) Paprika (seasoning), P:139 Narcolepsy, N:25 Penderecki, Krzysztof, P:255 Poliomyelitis (Kinds of poliomyelitis), Paradise Regained [book by Milton] Papua New Guinea (History), P:157 Milton, John, M:476 P:546 Papua New Guinea, P:140 with pic-Paradise tanager Paramagnetism | Magnetism (Magnetism in atoms), tures and maps Bird picture on, B:331 See also list of Related Articles Paraffin, P:160 MISG Paramaribo [Suriname], P:169 Butterfly (Butterfly conservation), B:691 Fuel (Petroleum), F:478 Suriname, So:440 with picture Flag picture on, F:206 Hydrocarbon (Aliphatic hydrocarbons), Parameclum (protozoan), P:169 with Goroka, G:261 15:400 Indonesia (New Guinea), 1:190 Petroleum, P:335 picture Protozoan (Structure), P:818 New Guinea, N:114 with map Paraffin wax, P:160 Paramedic, P:170 with picture Payback, P:222 Parameswara (Sumatran prince), P.170 Candle, C:124 Port Moresby, P:694 Wax (Mineral wax), W:106 Paraná (Argentina), P:170 Rugby football (Rugby League), R:445 **Paragneiss** Papua New Guinea (book by Bailey) Paraná River, P:170 Gneiss, G:217 Brazil (The Central and Southern Pla-Bailey, David, B:33 Paragraph, P:160 teaus Region), **B:540** Papyrus, P:158 with picture Paraguay, P:161 with pictures and maps Paraguay (Eastern Paraguay), P:164 Book (Early books), B:455 See also list of Related Articles Paraguay River, P:167 Egypt, Ancient (Education), E:122 Asunción, A:702 Parang imusical performance Trinidad and Tobago (Culture), THOS Hieroglyphics (Development of hiero-Aviation (Aircraft nationality marks), glyphic writing), H:193 A.681 Parani, Daing Bugis leaderl, P:171 Library (Libraries of papyrus), L:229 Flag picture on, F:203 Mental illness (Mental Illness terms) Manuscript, M:171; (Illustrated manu-Paranoia Latin America (Border disputes), L:92 scripts) M:172 World War II (table: The Allies), W:381 Mythology picture on, M:755 Paraguay River, P:167 M:351 **Paranormal** Paper (History), P:136 Brazil (The Central and Southern Pla-

teaus Region), B:540

Occultism, 0:384

Parantaka I [Indian ruler] Chola Empire, C:477 Paraplegia

Paralysis (Paralysis of central nervous system), P:168 Paraprofessional social worker

Social work (History), So:8

Parapsychology, P:171 Extrasensory perception, E:433 Psychical research, P:826

Telepathy, T:104

Parasite, P:171 with pictures Animal (Adaptations for breathing).

Balance of nature (Maintaining the balance), B:35

Cat (Veterinary care), C:253 Flatworm, F:221 with picture Fungi (How a fungus lives), F:485 with

Indian paintbrush, 1:171 Insect (Beneficial insects), 1:246 Life (The biological environment),

Malaria, M:78 with pictures Poultry (Raising poultry), P:726 Symblosis, So:515

Paraskenia (literature) Drama (Greek drama), D:286

Parasnath Hill (Bihar) Jainism picture on, J:12 Parasol mushroom

Fungi (Common kinds of fungi), F:486 Parasuram Kund [lake]

Arunachal Pradesh (Land), A:617 Parasympathetic nervous system

Nervous system (Autonomic nervous system), N:82 Parathormorm

Harmone (Blood composition hormones), H:278

Parathyrold gland, P:172 Gland (Endocrine glands), G:182

Hormone (Blood composition hormones), H:278

Human body (The endocrine system), H:358

Paratyphold fever See Typhold fever Parchment, P:172

Book (Early books), B:455 Library (Libraries of animal skins), L:231

Manuscript (Parchment manuscripts), M:171

Pardon (law), P:173 Amnesty, A:337

Convicts In Australia (Pardons), Ck:322 Parole, P:198

Paré, Ambroise lFrench surgeonl, Medicine (The Renaissance), M:315

with picture Surgery (History), So:439

Pareja, juan de

Valázquez, Diego picture on, V:325 Parenchyma

Flatworm, F:222 Potato (The potato plant), P:718 Stem (Herbaceous stems), So:315 Tissue (Plant tissue), T:263

Parent, P:173

See also list of Related Articles Adolescent (Social development), A:53 Animal (How animals raise their young), A:406 with pictures

Child abuse, C:409 Parenthesis, P:174

Algebra (Symbols in algebra), A:255 Punctuation, P:857

Parent's Charter . . . , The leducation United Kingdom, Educational systems of the (History), U:102

Pareto, Vilfredo (Italian sociologist), P:174

Parham, Charles Fox freligious leader! Pentecostal churches (Major Pentecostal churches), P:266

Pari-mutuel

Horse racing (Betting), H:308 Parian (imitation marble) Copeland, William Taylor, Ci:339 Spode china, So:233

Parlan Marble

Thespis, T:218 Paricutin [Mexico], P:174 with picture Volcano (Cinder cones), V:418; (table)

Parietal bones (anatomy) Head, H:92 with diagram Skull, \$:474

Parietal lobe (anatomy) Brain (The cerebrum), B:511

Parietal pleura janatomy)

Pleura, P:596 Paris and Helen (opera by Gluck) Gluck, Christoph Willibald, G:215

Paris |France|, P:175 with pictures and

See also list of Related Articles Town planning (The Renaissance), T:319

Paris [Greek mythology], P:174 Helen of Troy, H:136

Iliad, 1:30

Menelaus, M:347

Mythology (Greek heroes), M:757 Trojan War (The beginning of the war), T:411

Troy (The legendary Troy), T:421 Venus, V:338

Paris conferences, P:184

Foch, Ferdinand, F:283 Lloyd George, David (Prime minister),

1:343

United States, History of the (The peace conference and treatyl, U:256

World War I, W:375

World War II (The Peace of Paris), W:378

Paris Peace Conference See Paris conferences

Paris, Comte de lFrench noblemanl, P:184

Paris, Congress of [1856] Congress, Cl:282 Paris, Matthew (English historian), 25384

Paris, Pact of Kellogg-Briand Peace Pact, K:212

Paris. Treaty of

American Revolution, A:328

Quebec, Battle of, Q:11 Paris, Treaty of [1856]

Moldova (Ottoman and Russian rule), MISTE

Paris, University of, P:184 Parish (religion), P:165

Religion (How the major religions are organized), R:200

Roman Catholic Church (Dioceses and parishes), R:338

Parity (physics), P:185

Park, P:185 with pictures

Park, J. K.

Envelope, E:298

Park, Mungo (Scottish explorer), P:186 Exploration (table), E:425; (The interior of Africa) E:425

Niger River, N:205

Park, Robert E. |American sociologist| Collective behaviour, Cl:164

Park, Ruth [Australian author], P:186 Park Chung Hee (president of South Koreal, P:186

Korea (South Korea), K:328 Seoul (History), 5:260

Parker, Charlie (American jazz musiciani, P:187 lazz (Bebop), J:76 with picture

Parker, Dorothy (American poet), P:187 with portrait

Parker, Hubert Lister See Parker, Lord

Parker, Lord (English Judge), P:187 Parker, Richard G. [American teacher] Edison, Thomas Alva (Boyhood), E:77

Parkes [Australia], P:187

Parkes, Sir Henry (Australian political leaderl, P:188 with portrait Australia, History of (Federation),

Federation of Australia, F:45 with picture; (The preliminary conference)

New South Wales (History), No. 133

Parking meter Traffic, T:335

Parkinson, C. Northcote (British histo-Parkinson's law, P:189

Parkinson, Cecil (British politician), P:100

Parkinson's disease, P:189 Brain (Other brain disorders), B:518

Parkinson's law, P:189

Parkman, Francis [American historian].

Parks, Rosa Lee (American public figurel, P:189 with portrait

Parliament, P:190 with pictures

See also list of Related Articles Cabinet, C:3 Democracy (Democracy in Britain),

D:103

Edward I, E:93

Parr, Catherine

England (Government), E:261 Henry VIII, H:152 See Parthia England (The beginnings of Parlia-Parrakeet ment), E:276 See Parakeet Parramatta [Australia], P:199 Government (Modern times), G:276 House of Commons. H:327 Parrillada criolla (food) House of Lords, H:327 Uruguay (Food and drink), U:282 House of Representatives, H:327 Parrish, Maxfield [American painter], Industrial Revolution (The working P:199 with portrait and picture class), I:215 Pied Piper of Hamelin picture on, Long Parliament, L:378 P:489 Nobility (Privileges of the peerage), Parrot, P:200 with pictures N:236 See also list of Related Articles Royal Family of the United Kingdom Kakapo, K:180 (The gueen and Parliament), R:423 Kea, K:207 with picture Rump Parliament, R:457 Parrot fever Parliament, European, P:192 with pic-See Psittacosis ture Parrotfish, P:202 with picture Parliament, Houses of Parrotlet (bird) See Houses of Parliament Parrot (Kinds of parrots), P:200 Parliamentary burgh Parry, Milman [American scholar] Burgh, B:650 Homer (The Homeric question today), Parliamentary Commissioner for Administration Parry, Sir Hubert (British composer), Ombudsman, 0:450 P:202 Parliamentary Debates (Hansard) Parry, Sir William British naval officer. Hansard, H:56 P:202 Parliamentary executive (government) Exploration (table), E:427 President (Types of presidential gov-Melville Island, M:341 ernment), P:764 Ross, Sir James Clark, R:403 Parliamentary procedure, P:193 Parrying Parliamentary system Boxing picture on, B:497 Cabinet, C:3 Parsec (unit of measure), Pt202 Election, E:138 Astronomy (Measuring distances in Government (Parliamentary governspace), A:695 ment), G:273 Parsees [religious group], P:202 **Particulars** Political parties (Organizing the gov-Funeral customs (The funeral), F:484 ernment), P:648 Maharashtra (People), M:64 **Particulates** Parma [Italy], P:197 Zoroastrianism (History), Z:508 Parma wallaby [animal], P:197 with pic-Parsifal lopera by Wagner! ture Wagner, Richard (Later career), W:3 Parmelia (ship) Parsing, P:203 Stirling, Sir James, So:326 **Parsis** Parmenides [Greek philosopher], P:197 See Parsees gram Pre-Socratic philosophy (The teachings Parsley (plant), P:203 with picture of Parmenides), P:770 Parting tool Parsnip (plant), P:203 with picture Parnaíba River [Brazil], P:197 Parsons, Robert (English religious Brazil (The Northeast Region), B:538 leaderl, P:204 Parnassus [Greecel, P:198 Parsons, Sir Charles (British engineer). Delphi, D:99 P:103 Deucalion, D:142 Invention (The Industrial Revolution), Parnell, Charles Stewart (Irish political £317 leaderl, P:196 with portrait Parsons, William Ireland, History of (Home Rule and the See Rosse, Earl of Land League), 1:375 Part song Parody, P:198 Classical music (Song), Ch57 Humour (The types of humour), H:371 Parthenia (music by Gibbons) Parole, P:198 Gibbons, Orlando, G:154 **Paroquet Parthenogenesis** See Parakeet Aphid, A:471 Parotid gland Insect (Reproduction), I:254 Mumps, M:700 Ci:396 Parthenon [Greece], P:204 with picture Saliva, S:51 with diagram Greece, Ancient picture on, G:352 **Parotitis** Parthia lancient kingdom), P:204 with See Mumps map Parts of speech [grammari, p.20] Parotold gland Hadrian, H:4 Dictionary (What a dictionary tells Toad, T:268 Persia, Ancient (Government), P:294; **Parquet** (The Parthlan Empire) P:295 English language (Grammari, E281 Flooring, F:230 Turkmenistan (History), T:468

Parthians (people)

Partial eclipse [astronomy] Eclipse (Lunar eclipse), E:54 Partial pressure in gases, Lawoi Dalton, John, D:11 Partial vacuum Vacuum tube, V:297 Participating policy Insurance (Dividends), 1:273 Participle (grammar), P:205 Gerund, G:142 Verb (Formal characteristics), V30 Particle accelerator, P:205 with ple-See also list of Related Articles Archaeology (Dating), A:503 Atom (How scientists study atoms), Bubble chamber, B:605 CERN. C:329 Cyclotron, Cl:511 Electricity picture on, E:166 Irradiation, 1:405 Magnetism picture on, M:54 Neutrino, N:105 Nuclear physics, N:332 Superconductivity, So:428 Particle board Forest products, F:354 Particle physics, P:206 Physics, P:474 Science (Physics), S:140 Particle, Atomic See Atom; Particle physics Metaphysics, M:379 Air pollution, A:201 Environmental pollution (Air pollution), E:301; (Industrial wastel E:302; (Business and indulry) E:397, E:301 (Kinds of environ mental pollution) E:302 with 曲 Woodcarving, W:303 Partisans, P:207 Jews (The Holocaust), J:116 Tito, Josip Broz, T:267 Yugoslavia (World War II), Y:474 Partita imusic by Walton Walton, Sir William, W:29 Partition wall Building construction (Types of care struction), B:628 Partnership [business], P:207 Business, B:673 Parton, Dolly Rebecca (American Country music (Country music today) Partridge, P:208 with picture Bird picture on, B:323, B:340 Partridge, Eric New Zealand writer.

Grammar, G:287 Party state

Communism (Communism in practice), Ci:239

Party systems

Government, G:274 Parvati [Hindu goddess]

Hinduism (Divinities), H:209

Parvovirus

See Canine parvovirus

Paryusana [festival]

lainism (Festivals), J:12

Parzival lpoem by Eschenbachl Garman literature (Epic poetry), G:107

Wolfram von Eschenbach, W:288 Pas de Déesses (ballet by Joffrey)

loffrey, Robert, 1:123

Per de Quatre. The [ballet by Dolin] Dolin, Sir Anton, D:242

Pasay [Philippines], P:208

Pascal lunit of measure!, P:208

Decibel, D:68

Pascal triangle

Bloomial theorem, B:297

Permutations and combinations (History). P:287

Parcal, Blaise French philosopherl, P:208

Computer (Early calculating devices), Ci:264

French literature (Classical prose), F:447

Hydraulics (Laws of hydrostatics), H:399

Mathematics (Mathematics and the scientific revolution), M:260

Permutations and combinations (His-

tory), P:289

Pressure, P:771

Roman Catholic Church (Jansenism), R:342

Pascal's law, P:209

Hydraulics (Laws of hydrostatics),

Pressure, P:771

Pasch, Gustave E. [Swedish chemist] Match (The first safety matches), M:253

Paschal II (popel, P:209

Pachal Triduum [religion] Good Friday, G:253

Paha, Barkinzadeh Suleiman (Ottoman commander!

Tiranë, T:263

Pashmina [woo!]

Jammu and Kashmir (Agriculture), J:25 Pashto (language)

Afghanistan (Ethnic groups and lan-

guages), A:111 Pasmore, Victor British painterl, P:209 Paso Fino [horse]

Puerto Rico (Animals and plants), P:848

Paspalum [grass], P:209

Grass (Kinds of grass), G:302

Pasqueflower, P:209

See Mountain pass Pass law (South African history) Pan-Africanist Congress of Azania.

Passacaglia (music by Webern) Webern, Anton, W:127

Passage grave

Ireland, History of (Early peoples), 1:366 with picture

Passage to India, A (book by Forster) Forster, E. M., F:363

"Passage to India" [poem by Whitman] Whitman, Walt (His work), W:239

Passeggiata

Italy (Recreation), 1:455

Passenger pigeon, P:209

Animal (Hunting), A:413

Audubon, John James picture on,

A:741

Bird picture on, B:356

Pigeon (Wild pigeons), P:495

Passing of the Third Floor Back, The **[play by Jerome]**

Jerome, Jerome K., 1:85 with portrait

Passion According to St John, The (music by Bach)

Bach, Johann Sebastian (The Fourth Period), B:17

Passion According to St Matthew,

The (music by Bach)

Bach, Johann Sebastian (The Fourth Period), B:17

Passion

lesus Christ, 1:99

Passion music, P:210

Passion play, P:210 with picture

Easter, E:45

Oberammergau, 0:379 with picture

Passionflower, P:210 with picture

Passive components

Electronics (Passive components), E (89

Passive Immunity

Immune system (How the body develops immunityl, 1:42

Passive immunization

Immunization, 1:44

Passive resistance

Thoreau, Henry David, T:225

Passive smoking

Smoking (Smoking and disease), 5:501

Passive solar energy system

Solar energy (Solar heating), So:24

Passive sonar

Sonar (How sonar works), So:39

Passive voice

Voice Igrammari, V:415

Passover, P:210 Easter, E:41

Judaism (Holy days and festivals), J:156 Moses (The covenant with God),

M:632

New Testament (The public ministry of jesus), N:136

Religion (Religious rituals), R:199 Passport (document), P:211

Visa, V:408

Passport to Pimlico [film by Balcon]

Balcon, Sir Michael, B:38 Past Through Tomerrow, The book

by Heinlein

Heinlein, Robert A., H:135 Pasta (food), P:211 with picture Postn

Gem (imitation and synthetic gems), G:73

Paste-up

Printing (Page makeup), P:782

Pastel (art)

Crayon, C:421

Painting, P:42 with picture

Pastel de choclo [food]

Chile (Food and drink). C:418

Pasternak, Boris (Russian writer), Pt211 Russian literature (Post-symbolism),

R:500

Pasteur, Louis (French chemist), Pt212

Bacteria (History), B:22

Bacteriology (History), B:23

Biology (Materialistic physiology and the cell theory), B:307

Medicine (The scientific study of disease), M:316

Research (Applied research), R:236

Science picture on, S:146

Spontaneous generation, So:237

Yeast, Y:442

Pasteurization, P:212

Butter, **B:678**

Food preservation (Other methods),

Milk. M:468

Scrofula, S:184

Paston letters, P:212

Pastoral Constitution on the Church

in the Modern World

Vatican Council II, V:318 Pastry |food|, Pt212 with picture

Pasture, P:213

Pastures of Heaven, The book by

Stelnbeck)

Steinbeck, John, So:312

Pat and Mike Ifilm

Cukor, George, Ch488

Patagonia, P:213 with picture

Argentina, A:559

Patasse, Ange Felix [African political

Central African Republic (History), C:317

Patchoull [oil], P:213

Patella (anatomy)

Knee, K:297

Leg (The knee joint), L:194 with dis-

gram Patellar reflex

Reflex action, R:179

Patent (document), P:213

Copyright, Ch345

Manufacturing (How governments help manufacturing), M:170

Patent ductus arteriosus

Heart (Abnormal openings in the heartl, H:108

Patent leather

See Leather

Păté de foie gras ifood Goose (Raising geese), G:255

Pater, Walter Horatio (English essayistl, P:214

Paternity test Blood (The significance of blood groups), B:398 DNA fingerprinting, D:217 Paterson, Andrew Barton See Paterson, Banjo Paterson, Banjo (Australian poet), P.214 with portrait Australia, Literature of (The Middle Period), A:830 Australia, Literature of (The bush ballad), A:831 with picture Waltzing Matilda, W:30 Paterson, William (British soldier). P-215 Paterson (work by Williams) American literature (Modernist poetry), A:317 Williams, William Carlos, W:258 Paterson's curse [weed] See Salvation Jane **Pathans** See Pushtuns Pather Panchali (Songs of the Road) [film by Ray] Ray, Satyajit, R:147 Pathetic Fallacy, The book by Powysl Powys (Llewelyn), P:733 Pathfinder force, P:215 Pathogen Disease (Infectious diseases), D:190 Immune system, 1:38 Pathology, P:215 Biology (table), B:305 Botany, **B:479** Medicine (The specialities), M:311; (The scientific study of disease) MISTR Virchow, Rudolf, V:400 Punjab (Places to visit), P:860 Patiala Gharana

Pati dam [Argentina] Dam (table), D:13 Patiala [India]

Ustad Fateh Ali Khan, U:286 Patience [game], P:215 with picture Patience lopera by Gilbert and Sullivani Gilbert and Sullivan, G:138 Patina

Copper (Resistance to corrosion), Cl:341

Corrosion, Ci:365 with picture Sculpture (Medieval and Renaissance sculptors), S:193

Patmore, Coventry (English poet), P:216 Patmos (island), P:216

Patna [India] Bihar (places to visit), B:290

Pato (sport)

Argentina (Recreation), A:556 Patois llanguage

Calypso (Development), C:45 Dominica (People), D:255 Martinique (People), M:233 West Indies (Languages), W:165

Paton, Alan Stewart South African writer], P:216

South Africa (Arts), So:61

Patriarch, P:216

Abraham, A:15 Cathedral (Organization of a Cathedral). C:260 Family (Early families), F:22

Jews (Beginnings), 1:112 Patriarchal family Family (History of the family), F:22

Patriarchal history Genesis, G:78

Patricians, P:216 Rome, Ancient (Roman Republic), P:376

Patrick, Saint, P:216

Croagh Patrick [mountain], Cl:446 with picture

Ireland, History of (The island of saints and scholars), I:367 with picture Irish literature (Heroic tales, romances, and sagas), 1:382

Patrilineage

Africa (Marriage and the family), A:131 Australian Aborigines (Social groups), HANGS.

Patriotism, P:217 with picture See also Nationalism

Patriots, The [play by Kingsley] Kingsley, Sidney, K:283

Patrol boat

Warship (Small combatants), W:45 Patrol Hydrofoil Missileship (PHM) Hydrofoil (Modern hydrofoil develop-

ment), H:403

Patron [art] Sculpture (Later medieval sculpture), S:210

Patron saints, P:218

Patsayev, Victor [Russian astronaut] Space exploration (Salyut and Skylab),

Pattakos, Stylianos [Greek politica] leader]

Greece (The revolt of 1967), G:344

Patten, Christopher Francis (British politicianl, P:218

Pattern

Cast and casting (Patterns for casting), C:231

Clothing (Manufacturing and selling), Ci:107

Interior decoration (Pattern and texture), I:283; (Choosing patterns and textures) 1:285; picture on

Sewing (Preparing for a sewing project), S:286

Pattern [psychology] Gestalt psychology, G:143

Patterson, P. J. Jamaican prime minister], P:218

Patton, George Smith, jr. iAmerican generall, P:218 with portrait World War it (The drive to the Rhine), W:393

Patton [film]

Coppola, Francis Ford, Ch345 Patuone, Eruera Maihi [Maori chief] Waitangi, Treaty of, W:7 Paul Bunyan

See Bunyan, Paul

Paul I (king of Greece), P:218 Paul III (pope), P:218

lesuits (History), J:95

Pope (Renaissance and Reformation). P:677 with picture

Trent, Council of, T:393

Paul IV [pope], P:219 Chetto (Early ghettos), G:149

Paul Lange and Tora Parsberg work by Biørnson]

Bjørnson, Bjørnstjerne, B:373 Paul of the Cross, Saint, P:220

Paul VI [pope], P:219

Birth control (Opposition to birth control), B:368

Eastern Orthodox Churches (History), E:47

Pope picture on, P:678 Protestantism (The unity movement,

Vatican Council II (The work of the council). V:318

Vulgate, V:429

Paul, Lewis (British inventor) Industrial Revolution (Spinning machines), J:213

Paul, Saint [apostle], P:219 with map See also list of Related Articles

Apostles, A:473

New Testament (The conversion of Paul), N:136; (Paul's missionary Journeys N:136

Philemon, Epistle to, P:364 Roman Catholic Church (The early church), R:338

Timothy, T:258

Paul, Saint Vincent de See Vincent de Paul, Saint

Pauli, Wolfgang (Austrian physicist), P:220

Nobel Prizes (Physics), N:226 **Pauline Chapel**

Michelangelo, M:436

Pauline Letters [New Testament] Bible (The Letters), B:274

Pauline [poetry by Browning] Browning, Robert (Browning's poems),

B:595 Pauling, Linus Carl [American chemist], P:220

Nobel Prizes (Chemistry), N:229; (Peace) N:234

Paulistas [religious group]

Goa (History), G:220 Paulists (religion), P:221

Paulus, Field Marshal Friedrich von

lGerman military leaderl Stalingrad, Battle of, So:270 World War II (On the Soviet front),

W:389 Pauperism, P:221

Child labour (First child labour laws), C:411

Pausanias [Greek geographer] Tourism (History), T:312 Pavarotti, Luciano (Italian singer),

P:221 with picture Paving

Nigeria (Agriculture), N:212 with pic-

Wake Island, W:8

Peanut, P:229 with pictures

Pear, P:231 with pictures

Queensland (Farming), Q:22

Road, R:297 Paylov, Ivan Petrovich [Russian physiologisti, P:221 Rehaviour (Behaviourism), B:202 Hypnotism (Scientific studies), H:415 Nobel Prizes portrait on, N:230 Psychology (Behaviourism), P:830 Reflex action (Conditioned reflex). R:179 Paylova [food], P:221 Food (Interesting facts about food), F-294 Pavlova, Anna (Russian ballet dancer), P:221 with picture Ballet (Russian ballet), B:56 with pictune Pawi Ratchet, R:142 Pawn Chess (The board and the men), C:382 with diagrams Pawnbroker, P:222 Pawpaw [tree], P:222 with picture Pax Romana Peace (Ancient Greece and Rome), P-224 Rome, Ancient (The height of the empire), R:381 Paxton, Sir Joseph (British architect), P:222 Architecture (The Industrial Revolution), A:530 with picture Payback irevenge killing!, P:222 Payload bay Space exploration (Space shuttles), So:157 picture on So:159 Payload 8alloon (Sport balloons), **B:60** Space exploration (Space exploration terms), So:130; (Overcoming gravity) So:133 Payload specialist Space exploration (The shuttle era begins), So:158 Payne, Donald Gordon Marshall, James Vance, M:226 Payne, John Howard [American play-Wrightl, P:223 Payton, Walter [American footballer], P:223 with picture Paz, Octavio [Mexican poet], P:223 Latin-American literature (The mid-1900's), L:96 Nobel Prizes (Literature), N:233 Pazyryk rug Rugs and carpets (History), R:452 Pazzi Chapel (Florence, Italy) Architecture (Early Renaissance architecture), A:526 Brunelleschi, Filippo, **B:601** Renaissance (The fine arts), R:217 with **Pictures** PCR See Polychlorinated biphenyl Pd [symbol] Palladium, P:106 PDSA, P:223

Pea, P:223 with picture

Peace, P:224

See also list of Related Articles International law (Kinds of international law). I:291 Nobel Prizes (Nobel Prizes for peace), N:233 Peace and Bread in Time of War [book by Addams] Addams, Jane, A:33 Peace and Freedom (sculpture by Steynbergl Sculpture picture on, \$:218 Peace Column [painting by Peysner] Peysner, Antoine, P:355 Peace conferences linternational relations Hague, The (History), H:8 International law (History), 1:292 International relations (International conferences and organizations), 1:294 Israel (Recent developments), 1:439 Middle East (Attempt at peace), M:457 Peace (The 1800's and early 1900's), P:225 Peace Corps, P:225 Peace of ... See articles on peace agreements listed under their key word, as in Utrecht, Peace of Peace of Amiens Toussaint L'Ouverture, T:313 Peace of Nicias Peloponnesian War, P:249 Peace of Westphalia Thirty Years' War, T:221 Peace Palace Hague, The picture on, H:8 Peace pipe, P:226 Peaceable Kingdom, The lpainting by Hicks, Edward, H:192 with picture Peacemaking Peace, P:224 Peach, P:226 with picture Peach moth, P:227 Peacock, P:228 with picture Animal (Courtship behaviour), A:405 Peacock, Thomas Love (English novelisti, P:229 **Peafowl** Peacock, P:228 Peahen Peacock, P:228 Peak District [England], P:229 High Peak, H:198 Peak District National Park [England] Derbyshire (Places to visit), D:127 Peak Pobedy [mountain] Kyrgyzstan (Land and climate), K:349 Peale, Charles Willson | American artistl Peale, P:229 with picture

Peale, P:229

Peale, P:229

Peale, P:229

Pear thrips [insect] Insect (table), 1:262 Pearce, Bobby [Australian rower], P:233 Pearce, Philippa [English writer], P:233 Pearl [gem], P:233 See also list of Related Articles Pacific Ocean (Importance of the ocean), P:15 Pearl Fishers, The music by Bizet Bizet, Georges, B:373 Pearl Harbor [naval base] Navy (World War 11), N:61 Pearl Harbor Naval Base [Hawaii], P:235 with picture Japan (World War II), J:59 Roosevelt, Franklin Delano (America goes to war), R:390 United States, History of the (The United States in World War II), 0:259 Pearl of Great Price (book by Smith) Smith, Joseph, S:499 Pearl of the Antilies (nickname) Cuba. Ci:472 **Pearl oyster** Mother-of-pearl, M:644 with picture Pearl popcom Maize (Popcorn), M:73 Pearl [ship] Blackbeard, B:378 Pearlfish, P:236 Pearly eye Butterfly (Satyrs and wood nymphs), B:684; picture on B:683 Pearly eyed thrasher Thrasher, T:228 with picture Pearly kings and queens, P:236 with picture Pearly nautilus Nautilus, N:51 Shell (Octopuses and squids), 5:346 Pears, Sir Peter (English singer), P:236 with portrait Pearse, Patrick H. lirish political leaderl, P:236 Ireland, History of (The Easter Rebellion), I:376 Pearse, Richard [New Zealand inventor Aeroplane (Powered flight), A:77 Pearson, Karl [British geneticist], P:237 with portrait Statistics (History), So:304 Pearson, Lester Bowles (Canadian political leader], P:237 Canada, History of (The return of the Liberals), C:105 Peale, Raphaelle (American artist) Nobel Prizes portrait on, N:235 Pearson, Sir Cyril Arthur British jour-Peale, Rembrandt (American artist) nalistl, P:236 with portrait Pearson's Weekly Peale, Sarah Mirlam (American artist) Pearson, Sir Cyril Arthur, P:236 Peary, Robert Edwin (American ex-Peale, Titian (American naturalist)

Asia (Transportation), A:656

plorerl. P:237 with portrait Peerce, Jan [American singer], P-245 linrikisha, **£120** Arctic (Arctic exploration), A:544 Transportation (Land transportation), Peeress Arctic Ocean (Exploration of the Arctic T:347 Nobility (In Great Britain), N:236 Ocean), A:548 Pedicel [botany] Peer of the realm, P:244 Ellesmere Island, E:216 Inflorescence, 1:232 Peewit Exploration (table), E:427; (Polar explo-Raceme, R:41 See Lapwing Pegasus (Greek mythology), P:245 with ration) E:427 Pedigree, P:241 North Pole, N:261 Breeding (Animal breeding), B:552 picture Peasant Dance, The lpainting by Brue-Chimera, C:427 Architecture (table), A:515 with picture Horse (table), H:304 Bruegel, Pleter, the Elder, B:597 Sculpture (As part of architecture), Medusa, M:323 **Peasants** 5:189 Pegasus [rocket] Europe (Country life), E:364 Pedipalp Space exploration (Launch vehicles), Middle Ages (Life of the people), Whip scorpion, W:228 So:132 Pediar doll Peggy-Ann imusical comedy) Peasants' Revolt (1381) Doll (The 1600's and 1700's), D:245 Hart, Lorenz, H:69 Ball, John, B:45 **Pedologist** Pegmatite Wat Tyler's Rebellion, W:65 Soil, So:20 Beryl, B:261 Peasants' War (Germany), P:238 Pedometer [instrument], P:241 Columbite, Cl:205 Germany (The Reformation), G:132 Pedrarias Dávila (Spanish colonial offi-Feldspar, F:48 Peat. P:239 Gem (Sources of gems), G:71 Coal (How coal was formed), Ch120 Balboa, Vasco Núñez de (Later explora-Pegsat [satellite] with diagrams tion), B:38; (Execution) B:38 Satellite, Artificial (Important satellites), Fuel (Solid fuels), F:478 Latin America (The conquest of the In-S:96 Moss (The importance of mosses), dians), L:89 Pegwooden doll M:637 Pedro I [emperor of Brazil], P:242 Doll (The 1800's), D:246 North America (Plant life), N:254 Brazil (Independence), B:544 Pehm, Joseph Peat bog Pedro II (emperor of Brazil), P:242 See Mindszenty, Joseph Cardinal Ireland (Surface features), 1:357 Bell, Alexander Graham (The tele-Pei, I. M. (American architect), P:246 Peat, P:239 with picture phone), **B:229** with picture Peat moss, P:239 with picture Brazil (The age of Pedro II), B:544 Pelpus, Lake Bog, B:419 with diagram Pedro IV (king of Portugal) See Lake Peipus Moss, M:636 with picture See Pedro I Peirce, Charles Sanders American Plant (Bryophytes), P:546 **Pedro Miguel Locks** philosopher), P:246 Peat wax Panama Canal (The Pedro Miguel and Pragmatism, P:735 Wax (Mineral wax), W:106 Miraflores locks), P:123 with map Peking Pecan [tree], P:239 with pictures and diagram See Beiling Hickory, H:191 Peeblesshire (Scotland), P:242 Peking man (anthropology), P:246 Peccary (animal), P:240 with picture Borders Region, B:466 Peking opera Péchés de vielllesse [music by Rossini] Peel towers, P:243 with picture Drama (China), D:296 Rossini, Gioacchino Antonio, R:404 Peel, Sir Robert (British statesman), Pekingese, P:247 Peck (unit of measure), P:240 P:242 with portrait Dog, D:234 with picture Pecking order (zoology) Police, P:639; (History) P:643 Pelargonium Balance of nature (Behaviour), B:35 Peel, Thomas [Australian settler], P:242 Geranium, G:104 Pecos Bill (legendary figure), P:240 with portrait Pecs (Hungary), P:240 Pelé [Brazilian footballer], P:247 Peeler (police) Peleé, Mont Pectin, P:241 Peel, Sir Robert, P:242 See also Jam and jelly See Mont Peleé **Peeling** Peléean eruption Pectoral cross Coffee, Ch:152 Pope (Titles, clothing, and symbols), Volcano, V:420 Peepul (tree), P:243 Peleliu [Pacific Island], P:247 P:674 Peer group World War II (Island hopping in the Pectoral fins Adolescent (Social development), A:53 Ray. R:147 Central Pacific), W:399 Child (The preteenage years), C:405 Peleus [Greek mythology] Pectoralis major muscle Peer group relationships Breast, B:550 Achilles, A:23 Adolescent, A:54 Trojan War (The beginning of the war), Ped Peer Gynt |play by Ibsen] Soil (Structure), So:21 T:411 Grieg, Edvard, G:374 Pedagogical Sketchbook book by Pelham bridie Ibsen, Henrik, 1:4 Horse (The bridle), H:295 Kleel Theatre picture on, T:205 Pelham-Holles, Thomas Klee, Paul, K:295 Peer of the realm, P:243 with picture See Newcastle, Duke of Pedagogy [education], P:241 Pelham, Henry British political leader, House of Lords, H:327 Pedal wireless, P:241 with picture Peerage Act [1963] Flying Doctor Service, F:281 P:247 Peer of the realm, P:245 Pelican, P:247 with picture Peder Paars [play by Holbero] Peerage Holberg, Ludvig, H:244 Pelican flower, P:248 House of Lords, H:327 Pedestrian Pelican [ship] Drake, Sir Francis (Voyage around the Nobility (In Great Britain), N:236 with Safety (Pedestrian safety), S:14 picture Pedicab [vehicle], P:241 with picture world), D:280

Parliament (The House of Lords), P:191

Peer of the realm, P:243 with picture

Pelion (mountain, Greece), P:248

Pella [Greece], P:248

Pellagra [disease], P:248 Convicts in Australia, Ci:320 with picneurologisti, P:257 Goldberger, Joseph, G:239 tures and map Penge Nutrition (Vitamin deficiencies), N:368 French Guiana, F:441 See Bromley Pelléas and Mélisande lopera by De-Port Arthur, P:692 with picture Queensland (Early settlement), 0:25 bussyl Debussy, Claude, D:63 Sydney (History), So:512 Pelléas and Mélisande [play by Ma-Penal Laws Ireland, History of (The penal laws), eterlinckl picture Maeterlinck, Maurice, M:39 1:373 Pellegrina, La Penal system Western Australia (Convicts), W:182 Gem (Some famous gems), G:73 Pelopidas [Greek general], P:249 Penalty Australian Rules football (Penaities), Rogotia, B:418 Thebes, T:210 A:852 Peloponnesian War, P:249 Football, Association (Restarts), F:328; (Fouls and misconduct) F:328 Alcibiades, A:236 Greece, Ancient (The rivalry between Hockey (The game), H:238 Ice hockey (Violations and penalties), Athens and Sparta), G:353 Pericles (War with Sparta), P:281 1:12 with pictures Penicillin G Penalty goal Sparta (History), So:202 Penicillin V Rugby football (Scoring), R:443 Thebes, T:210 Thucydides, T:232 Penance Easter (Religious observances of Penicillium Peloponnesus [Greece], P:249 Faster), E:42 Achaeans, A:23 Roman Catholic Church (The seven Arcadia, A:498 sacraments), R:337 Greece, G:338 Penang [Malaysia], P:252 Ionians, 1:328 Penillion Penates Messenia, M:372 Lares and Penates, L:65 Pelorus W:151 Pencak silat [recreation] Navigation (Piloting), N:52 Pelota igame), P:249 with picture Indonesia (Sports), 1:186 Pelsaert, François (Dutch explorer), Pencil. P:254 with picture Faber, Eberhard, F:2 P:249 Peninsular War Dutch explorers, D:359 Handwriting, H:52 Peli See also Graphite Pencil of Nature, The book by Fox Tal-Fur, F:488 with pictures Peltier, J. C. A. (French physicist) botl Fox Talbot, William Henry, F:381 Thermocouple, T:214 Penis (anatomy), P:258 Pelton wheel Pendennis (book by Thackeray) Circumcision, Cl:8 Thackeray, William Makepeace (Later Turbine, T:448 with picture Human body (The reproductive sys-Pelvic inflammatory disease, P:249 career), T:177 tem), H:358 Chlamydia, C:474 Pendentive [architecture] Reproduction, Human (In males), Pelvis (anatomy), P:250 with picture Dome, D:254 R:226 Penderecki, Krzysztof [Polish com-Back, B:17 Sex, S:290 Skeleton (The axial skeleton), S:460 poserl, P:255 **Penitentiary** with diagram Pendle (England), P:255 Prison (Types of prisons), P:789; (Early Pemberton (Australia) Pendleton, George Hunt [U.S. senator], prison reform) P:790 Western Australia (Visitor's guide), P:255 Penn, William [American colonial W:176 Penduline tit leader], P:260 with pictures Pembroke Welsh corgl, P:250 Tit, T:264 Essex (History), E:333 Dog picture on, D:231 Pendulum, P:255 with picture Pennsylvania (History), P:264 Clock (Mechanical clocks), Ci:85 with See also Cardigan Welsh corgi Philadelphia, P:362 Pemmican [food], P:250 diagram; picture on Cl:86 Quakers (History), Q:5 Indian, American (Food), 1:139 Energy (The conservation of energy), Treaty picture on, T:369 ^{Pen}and-ink drawing E:246 United States, History of the (The Mid-Drawing picture on, D:304 Foucault, Jean Bernard Léon, F:374 die Colonies), U:239 Pan (bird) Galileo (Mature scientific career), G:13 Pennefather River (Australia) Swan, So:455 Metronome, M:390 Pen [tool], P:250 with pictures Weipa, W:141 Science picture on, S:143 Pennell, Joseph [American printmaker], Handwriting, H:52 Penelope [Greek mythology], P:257 Ink (Writing inks), 1:235 P:262 Odyssey (Odysseus returns home), ^{Pen}and ink plotter Penney, Lord [British scientist], P:262 Map picture on, M:190 Ulysses (The Trojan Warl, U:19; (Return with picture Pennies from Heaven Iwork by Potterl Pen name, P:251 to Ithaca) U:19 Potter, Dennis, P:721 Name (Pseudonyms), N:11 Peneplain (geology), P:257 Penal colony, P:252 Pennine Alps Penetrator Switzerland (The Swiss Alps), So:496 Australia, History of, A:794; (The Space exploration (Space probes),

So:142

Penfield, Wilder Graves [Canadian

founding of Australia A:799 with

pictures

Penguin, P:257 with pictures Animal (Incubation), A:406 with pic-Animal picture on, A:392 Antarctica (Animal life), A:440 with Bird picture on, B:316, B:336 Fairy penguin, F:11 with picture Penicillin, P:258 with pictures See also list of Related Articles Antibiotic (History), A:458 with picture Drug (The drug revolution), D:318 Medicine (The medical revolution), M:317; picture on M:318 Science (How scientists work), S:141 Penicillin (History), P:259 Penicillin (History), P:259 Fungi (Moulds), F:486 with picture Penicillin (Forms of penicillin), P:258 with picture Tyndall, John, T:481 Welsh literature (Later literature), Peninsula, P:260 with picture Peninsular Malaysia Malaysia (Land), M:89 Continental System, Cl:317 Napoleon I (Fall from power), N:22 Spain (French conquest), So:184 Wellington, Duke of, W:147

Pennine Hills [England], P:262 with pic-

ture

England (Surface features), E:270 Old Testament (Contents), 0:427 Allspice, A:279 Northumberland (Land features), N:287 Pentathlon, P:267 Cayenne pepper, C:288 Pennine Way [England] Athletics, A:712 Kava, K:203 See Pennine Hills Pentecost [religion], P:267 Peppered moth Evolution (Direct observation of evolu-Pennsylvania [U.S.A.], P:262 with pic-Christianity (The origin of Christianity), CI:484 tion), E:411 with pictures ture See also Philadelphia; Pittsburgh Pentecostal churches [religion], P:267 **Peppergrass** Penn, William, P:260 Pentiand Crown Cress. Ci:422 Peppermint [herb], P:270 with picture United States, History of the (The Mid-Potato, P:719 dle Colonies), U:239 Pentland Firth [Scotland], P:268 Mint, M:503 Pennsylvania Dutch (people), P:264 Pentode Peppermint itreel Amish, A:333 with picture Vacuum tube (Kinds of vacuum tubes), Eucalypts (Stringy barks and pepper-Mennonites, M:348 V:298 mints). E:351 Pennsylvania, P:260, P:262 Pentolite [explosive] Peppermint box [tree] Pennsylvania firefly Ammunition (Artillery ammunition), Eucalypts picture on, E:348 Beetle picture on, B:199 Peppermint gum [tree] Pennsylvanian Period Explosive (High explosives), E:430 Eucalypts picture on, E:349 Earth (The Palaeozoic Era), E:27 PETN, P:327 Pepperpot [food] Penny [coin], P:264 with picture Penumbra (light), P:268 with diagram Antigua and Barbuda (Clothing and Penny black Shadow, \$:295 with diagram food), A:461 Post office (Development of the postal Sun (Sunspots), So:416 Peppertree, P:271 with picture system), P:715 Sunspot, So:427 Pepsin, P:271 Stamp collecting, So:270 with picture Penwith [England], P:268 Digestive system (From mouth to "Penny dreadfuls" Penzance [England], P:268 stomach), D:171 Literature for children (Children's Penzias, Arno [American physicist] Enzyme, E:310 with diagram magazines), L:327 Nobel Prizes (Physics), N:228 Stomach (The stomach's work), So:333 Penny-farthing Peonage (labour), P:268 Ulcer, U:15 Bicycle (Early bicycles), B:283 with pic-Plantation ("Free'-labour plantations), Peptic ulcer ture P:574 Stomach, So:334 **Penny Post** Peony, P:269 with picture Ulcer, U:15 Hill, Sir Rowland, H:203 People Peptide Post office (Development of the postal Human being, H:346 Endorphin, E:244 system), P:715 People mover Pepsin, P:271 Pennyroyal (herb), P:265 Transportation (Improvements In Protein (The structure of proteins), Pennyroyal Region urban services), T:361 with pic-PERMIT Kentucky (Land), K:222 Pepys, Samuel (English writer), P:271 Pennyweight lunit of measurel, P:265 People of Seldwyla, The book by Kelwith portrait Penology Diary, D:157 Criminology (What criminologists Keller, Gottfried, K:211 Pequet, Henri [French pilot] study), Ci:441 People with the Dogs, The book by Airmail, A:208 Penrith (Australia), P:265 Steadl Peauod (ship) Penrose, Jonathan (British chess cham-Stead, Christina, So:307 Melville, Herman (His literary career), pion!, P:265 People, Yes, The [poem by Sandburg] M:340 Penshurst Place [England] Sandburg, Carl (His poetry), S:71 Pequot War Kent (Places to visit), K:221 People's Action Party (PAP) Indian wars, 1:173 Pension, P:265 Singapore (Toward Independence), Per capita protein supply Pensioner S:451 Food supply, F:311 Pension, P:263 People's Dispensary for Sick Animals Perak, P:272 with pictures and map Penstemon, P:266 Perak, Tun [Malaysian official], P:274 See PDS **Pentaceratops** People's Party [U.S. history] Percale [fabric], P:274 Dinosaur picture on, D:179 Populism, P:687 Percentage, P:274 with pictures Pentaerythritol tetranitrate People's Police Arithmetic, A:573 See PETN Perception [psychology], P:277 with Police (China), P:641 Pentagon [geometry], P:266 with pic-People's Temple pictures Cult (Modern cults), Ci:489 See also list of Related Articles Pyramid, P:872 with diagram Bacon, Francis (His philosophy), B:18 Guyana (History), G:435 Pentagon Building [U.S.A.], P:266 with Hume, David (His philosophy), H:366 Pepin the Short (king of the Franks), picture P(269) Leibniz, Gottfried Wilhelm, L:157 Pentameter [poetry] Reading, (Perceiving reading matter), Charlemagne (Military conquests), Greek literature (Lyric poetry), G:357 Metre, M:384 R:151 France (The Carolingian dynasty), F:411 Perceptual context Poetry (table), P:611 Perception (Principles of perception), Italy (The Middle Ages), 1:466 Pentane Lombards, L:364 Perceval, Spencer (British prime minis Natural gas liquids, N:46 Middle Ages (The Carolingian Empire), Pentas (plant), P:266 M:447 ter], P:279 Pentateuch (Old Testament), P:266

Papal States, P:132

Pepper (plant), P:270 with picture

Capsicum, C:148 with pictures

Pepper (spice), P:269 with picture

Bible (Books of the Old Testament),

B:271

Moses, M:631

Perch [fish], P:279

Perching duck [bird]

Skeleton diagram on, S:461

Darter, D:37

Duck (Kinds of ducks), D:339 with pic-

Perching foot

Bird picture on, B:350

Fercussion instrument

Classical music (Orchestral music), Cl:56

Drum, D:324 with pictures Music, M:729 with pictures

Orchestra (The musicians), O:488

Percy, Sir Henry (English nobleman),

Percy, Thomas [English scholar] Ballad (Ballads and literature), B:45 Percy, Walker [American writer]

American literature (Fiction and other prose), A:320

Perdiccas I

Macedonia [historical region], M:8

Peregrine falcon

Animal picture on, A:413 Bird picture on, B:316

Falcon, F:12 with picture

Peregrine Saga, The Iwork by William-

Williamson, Henry, W:259

Perelman, S. J. [American writer], P:279 Perennial allergic rhinitis

Hay fever (Treatment), H:89

Perennial [botany], P:279

Flower (Garden perennials), F:246 with pictures

Forget-me-not, F:360

Gardening (Selecting the plants), G:36 Grass (The grass plant), G:301

Plant (Germination), P:560

Weed (How weeds grow), W:131

Perennial allergic rhinitis Allergy, A:273

Perennial Scope of Philosophy, The book by Jaspers)

Jaspers, Karl, J:67

Père David's deer Deer. D:82

Père Noël

Santa Claus (Santalike characters in other countries). S:77

Pares, Shimon Ilsraeli political leaderi, P:279 with portrait Israel (Recent developments), 1:439

Shamir, Yitzhak, S:328 Perestroika

Communism (The Soviet Union under Gorbachev), Ci:243 Europe (Recent developments), E:392

Gorbachev, Mikhail Sergeyevich, G:256

Iron Curtain, 1:403

Union of Soviet Socialist Republics (Economy), U:31; (Gorbachev's reforms) U:36

Pérez, Carlos Andrés (Venezuelan political leader) Venezuela (Recent developments),

V:334

Pérez de Cuéllar, Javier l'Peruvian dipomat), P:280

Boutros-Ghali, Boutros, B:489 United Nations (The secretary-general), U:167 with picture

Pérez Galdós, Benito Spanish literature (The 1800's), So:195

Perez. Juan [Spanish explorer]

Vancouver Island, V:307 Perfect cadence [music]

Cadence, C:11

Perfect fluid

Fluid. F:272

Perfecting cylinder press

Printing, P:783

Perfectionist, The work by Williamsonl

Williamson, David, W:258

Perforation

Stamp collecting (Separations), So:271

Perforator

Petroleum (Completing the well),

P:346

Performance Industry, 1:226

Performance bond

Bonding, B:445

Performance royalty

Recording industry (Releasing the recording), R:167

Performing arts

Fine arts (Grouping the arts), F:110

Perfume, P:280

See also list of Related Articles

Pergamon Altar

Berlin (Libraries and museums), B:249

Pergamum (ancient city), P:281

Pergolesi, Giovanni Battista İltalian composer], P:281

Opera (Opera seria and opera buffa), 0:463

Pericarditis

Heart (Inflammatory heart disease), 14:109

Pericardium

Heart (Muscular walls), H:101; (Inflammatory heart disease) H:109

Membrane (Serous membranes),

M:341

Pericaro [botany]

Fruit (How botanists classify fruits),

Pericles [Greek military leader], P:281 Age (Historic ages), A:156

Greece, Ancient picture on, G:352 Oratory (Classical orators), 0:484

Pericles Iplay by Shakespearel Shakespeare, William, S:319

Pericycle

Root (The core), R:393

Periderm

Potato (The potato plant), P:718

Peridot [gem], P:282

Gem picture on, G:72 Olivine, 0:431

Peridotite

Rock, R:307; picture on R:309

Perigee

Month, M:580

Moon (The orbit of the moon), M:590

Orbit, 0:485

Perihelion [astronomy], P:282

Perimeter

Algebra (Writing formulas), A:254

Triangle (Properties and relationships of triangles), T:397

Period [astronomy]

Comet (The paths of comets), Ci:216

Hogg, Helen Sawyer, H:242

Kepler, Johannes, K:231

Period (chemistry)

Flement, Chemical (The Periodic

Table), E:199

Period | aeology

Earth (History of the earth), E:25

Period, Menstrual

See Menstruation

Periodic klln

Brick (Firing bricks), B:558

Periodic table

Chemistry (Formation of the periodic

table), C:370

Mendeleev, Dmitri Ivanovich, M:345

Meyer, Julius Lothar, M:431

Science (Classifying data), S:141

Periodical

Magazine, M:40

Trade publication, T:327 Periodical cicada linsecti

Cicada, Ci:1

Periodontics

Dentistry, D:120

Periodontitis, P:282

Mouth, M:678

Teeth (Periodontal diseases), T:96 with diagrams

Periosteum

Bone (Structure of the bones), B:446 Membrane (Fibrous membranes),

M:341

Periot, Henri-Jules [French author]

Daniel-Rops, Henri, D:31

Peripatetic philosophy, P:283

Aristotle (Aristotle's life), A:567

Peripheral equipment

Computer (Computer hardware and software), Cl:257

Peripheral nervous system

Human body, H:359

Nervous system, N:82

Paralysis, P:169

Periscope (instrument), P:283

Prism, P:788

Submarine, So:368

Peristalsis (physiology)

Alimentary canal, A:269

Stomach (The stomach's work), So:333

Peristome

Moss (How mosses live), M:637

Peristyle

Architecture picture on, A:522

Rome, Ancient (Food, clothing, and shelter), R:373

Peritoneum [anatomy]

Abdomen, A:7

Membrane (Serous membranes),

M:341

Peritonitis, P:283

Peritonitis, P:283

Colitis, Ci:163

Diverticulitis, D:204 Membrane (Serous membranes),

M:341 Perón, Juan Domingo, P:288 nicture Periwig Perón, Isabel (Argentine political Clothing (The 1600's), Cl:103 with picleaderl tary leaderl, P:292 President (Women as presidents), Hairdressing (The 1600's), H:12 P:769 Europe), W:373 Wig. W:245 Perón, Juan Domingo (Argentine dicta-Persia Periwinkle (plant), P:283 tor], P:288 with portrait See Iran Periwinkie (snail). P:283 Argentina (Military dictatorships), Perjury [crime], P:284 A:563 with picture; (New political and map Witness, W:283 problems) A:563 Perkin, Sir William Henry (British Fascism (Fascism in other countries), Alexander the Great (Conquest of chemistl. P:284 F-31 Persial, A:244 Aniline, A:375 Perón, Eva Duarte de, P:288 Iran (History), 1:339 Chemistry (Growth of Industrial chem-Peron, François [French naturalist]. istrv). C:372 P:288 Coal tar. Ci:134 Peronistas (political group) Dye (History), D:362 Argentina (New political problems). picture Mauve, M:271 Persian buttercup Perkins, Charles [Australian Aboriginal Peron, Juan Domingo, P:288 Buttercup, B:679 leaderl P:284 Peroxide of hydrogen Persian cat Perkins, Jacob [American inventor] See Hydrogen peroxide Refrigeration (Compression and ab-Perpendicular tracery 12248 sorption systems), R:185 Gothic art (Gothic architecture in En-Persian Gulf, P:296 Perkins, Kieren [Australian swimmer] gland), G:263 Olympic Games picture on, 0:440 Tracery, T:323 Iran (Iran today), I:340 Perleycross (book by Blackmore) Perpetual calendar Iraq (Land), 1:344 Blackmore, R. D., B:380 Calendar (A perpetual calendar), C:36; Persian Guif War, P:296 Perlis [Malaysia], P:284 with picture and (Calendar reform) C:37 Baghdad (History), B:26 man Perpetual Covenant [Swiss history] Guided missile, G:406 Perlman, Itzhak [Israeli violinist], P:285 Switzerland (The struggle for free-Permafrost, P:285 with map dom), So:500 Arctic (Natural resources), A:542 Perpetual motion machine, P:288 with Iraq, 1:347 Russia (Land regions), R:475 picture Tundra, T:439 Perrault, Charles (French author), PYTOA Permalloy, P:285 P:289 Refugee, R:187 Alloy (Other alloys), A:278 Fairies (Fairies in literature), F:11 Permanent magnet Mother Goose (The history of Mother S:133 Electric generator (Parts of a genera-Goose literature), M:644 Tel Aviv. T:99 tor). E:147 Perry, Fred (British tennis player), P:291 Persian lamb Magnetism, M:55 Tennis (Beginnings), T:146; (table) Fur picture on, F:489 Permanent tissue T:147; table T:148 Karakul, K:193 Tissue (Plant tissues), T:263 Perry, Matthew Calbraith (American military leader), P:290 Persian language Texas (Economy), T:168 Asia (The age of colonialism), A:658 Iran (Language), I:334 Japan, J:33; (Renewed relations with Persian rug Australia (Paleozoic Era), A:767 the West) J:57 with picture Earth (The Palaeozoic Era), E:27 table Tokyo (Western influence), T:287

Permian Basin Permian Period on F:30 Yokohama, Y:455

Insect (The orders of insect), I:261 Prehistoric animal (The Age of Reptiles), P:745 with diagram

Permissible explosive [explosives] Dynamite (Kinds of dynamite), D:365

Permutations and combinations (mathematics), P:286

See also Probability Pernambuco wood

Brazilwood, B:547 Violin (Bow), V:398

Pernicious anaemia

Anaemia, A:347 Hodgkin, Dorothy Crowfoot, H:240 Trace elements, T:322 Vitamin (Vitamin B₁₂ and folic acid),

V:411 Perón, Eva Duarte de l'Argentine political leaderl, P:288 with portrait

Argentina (Military dictatorships), A:563 with picture

Perseus (constellation), P:291 Perseus [Greek mythology], P:291 Andromeda | Greek mythology|, A:363

Persia, Ancient picture on, P:292

Perry, Oliver Hazard [American mili-

tary leader], P:289 with picture

Perse, Saint-John (French poet), P:291

ogyl, P:291

Demeter, D:100

Orpheus, 0:506

Pomegranate, P:663

bela), A:245

ture), A:517

Persepolis (ancient Persia), P:291

Adonis, A:56

Persephone (Greek and Roman mythol-

Alexander the Great (The Battle of Ar-

Architecture (Mesopotamian architec-

Gorgons, G:258 Medusa, M:323 Sculpture (Michelangelo), S:212 with Pershing, John Joseph | American mili-World War I (American troops in

Persia, Ancient, P:292 with pictures See also list of Related Articles

Islamic art, I:418 with pictures New Year's Day (Early customs), Net39 Sculpture (Middle Eastern), S:194 with

Cat (Long-haired breeds), picture on,

Indian Ocean (Pollution), 1:171

Indian Ocean (Pollution), 1:171 International relations, 1:296

Palestine Liberation Organization,

Saudi Arabia (Recent developments),

Turkmenistan (Economy), T:467

Islamic art (Rugs), I:420 with picture

Rugs and carpets, R:452 Persian wars

Greece, Ancient, G:353 Persians, The ipiay by Aeschylus Aeschylus, A:108 Persians [people]

Afghanistan (Early invasions), A:114 Architecture (Mesopotamian architec ture), A:517 with picture Azerbaijan (History), A:897

Iran (Ancestry), I:334 Persia, Ancient, P:293

Persimmon [tree], P:298 with picture

Persistent pesticide

Pesticide (Pesticides and the environment), P:319 Persistent Vegetative State

Death (Defining death), D:58 Person (grammar), P:299

Person-to-person calls Telephone (Long-distance calls), T:108 Personae [poetry by Pound] Pound, Ezra Loomis, P:728

Personal computer See Computer Personal data (computers) Data protection, D:40 Personal essay Essay, E:330 Personal flotation device (PFD) Life lacket, L:252 Personal income Income, I:52 Personal liberty laws Fugitive slave laws, F:480 Government (Individual rights), G:271 See also Habeas corpus

Personal name See Name Personal pronoun Person, P:299

Personal realism [moral theory] Ethics (In the 1900's), E:337 Personal sculpture Sculpture, S:203 with picture

Personal union England (The first Stuarts), E:278 Personality, P:299

See also list of Related Articles Baby (Growth and development), B:6 Personality disorders

Mental Illness, M:353 Personality test

Testing, T:163 Personals (book by Bontemps) Bontemps, Arna Wendell, B:452 Personification

Figure of speech, F:74 Personnel management, P:301 Personnel psychology

Industrial psychology, 1:208 Perspective [art], P:301 with pictures Alberti, Leon Battista, A:233

Drama (The Italian stage), D:290 with picture

See also Raphael Masaccio, M:239 with picture Painting (Roman painting), P:47 Perspiration, P:302

Persuasion [book by Austen] Austen, Jane, A:748

Perth and Kinross (Scotland), P:306 Perth [Australia], P:302 with pictures and maps

Western Australia (European colonization), W:182 Pertussis

Whooping cough, W:241 Peru, P:307 with pictures and maps See also list of Related Articles

Aviation (Aircraft nationality marks), A:881 Bolivar, Simón, B:424

Flag picture on, F:203 Latin America (Border disputes), L.92 Lima, L:277 with picture Peru Current (Pacific Ocean), P:317

Ocean (Currents), O:394 Pacific Ocean (Currents and tides),

Peru (Climate), P:313 South America (Climate), So:94 Perutz, Max Ferdinand (British molecular biologist), P:317 Nobel Prizes (Chemistry), N:229

Peruvian tortoise beetle Beetle picture on. B:199 Pescadores [Taiwan], P:317

Peseta [money], P:318 Peshkov, Alexy Maximovich

Gorki, Maxim. G:261 Peso [money]

Dollar, D:249

Apple, A:478

Cabbage (insects and diseases), C:2 with picture

Famine (Plant diseases and pests), F:24 Grape (Diseases and pests), G:298 Plant (Pests), P:568; (How plants protect themselves) P:568: (Control of diseases and pests) P:569

Rice (Controlling diseases and pests), R:265

Tobacco (Diseases and pests), T:271 Pest control

Gardening (Fighting diseases and pests), G:40

Maize (Controlling pests and diseases), M:73

Potato (Diseases and insect pests), P:720

Pestalozzi, Johann Heinrich (Swiss teacherl. P:318 Pesticide, P:318 with diagram

Agronomy, A:177 Conservation (North America), Cl:301 Environmental pollution (Hazardous

wastel, E:305 Environmental pollution (Kinds of environmental pollution), E:302 with

Insecticide, I:263 Pelican (Endangered pelicans), P:248

diagram

Water pollution (Effects), W:89 Pet, P:319 with pictures

See also list of Related Articles Bird (Birds as pets), B:318 with pic-Goat (Other uses), G:221

Parrot (Parrots as pets), P:202

Pet Sematary Ibook by Kingl King, Stephen, K:255 Pétain, Henri Philippe [French military

leader), P:323 with portrait Daladier, Édouard, D:8 De Gaulle, Charles André Joseph

Marie (Leader of the Free French), D:86

France (World War II), F:415 World War I (The Battle of Verdun), W:368; (Allied failures) W:371 World War II (The fall of France),

W:384

Petal

Flower (The corolla), F:261 Peter I [king of Serbial, P:323 Yugoslavia (A new nation), Y:474 Peter I, the Great [czar of Russia], P:324

with portrait Catherine I, C:266 Charles XII. C:352

Moscow (The rise of Moscow). M:630 Russia (Architecture), R:473; (Peter the Great R:487 with portrait

Russian literature (Western influ-

ences), R:496 Russo-Turkish wars, R:503 Saint Petersburg, S:43

Peter I book by Tolstoy Toistoy, Alexel, T:288

Peter II Iking of Yugoslavial, P:324 Yugoslavia (A new nation), Y:474; (World War II) Y:474

Peter, Epistles of [New Testament], P:324

Peter, Saint (Later years), P:325

Peter, Saint, P:325

Bramante, Donato, B:522 Pope, P:673; picture on P:676 Roman Catholic Church picture on, 12:339

Peter and the Wolf imusic by Proko-

Prokoftev, Sergei Sergeyevich, P:799 Peter Grimes (opera by Britten)

Britten, Benjamin, B:582 Pears, Sir Peter, P:236

Peter Ibbetson (book by du Maurier) du Maurier (George Louis Palmella Busson du Maurieri, D:344

Peter Pan [literary figure], P:325 with picture

Barrie, Sir James Matthew, B:119 Peter Rabbit

Potter, Beatrix, P:721 with picture

Peter the Hermit [French monk], P:326 Crusades (The First Crusade), Ci:463

Peterborough (England), P:326 Cambridgeshire, C:49

New town (table), N:138

Peterborough Cathedral [England] Cambridgeshire (Places to visit), C:50 Peterle, Lojze iSlovene political leader)

Slovenia (History), S:494 Peterlee

See Durham; New town Peterloo, P:326

Peterloo Massacre [British social historv]

Addington, Henry, A:34 Manchester (History), M:146 Peterloo, P:326

Petersen House

Washington, D.C. (Ford's Theatre), W:56

Petiole

Leaf, L:129; picture on L:128 Plant (Leaves), P:554 with picture Vegetable (Leaves), V:322

Petipa, Marius [French choreographer], P:326

Ballet (Russian ballet), B:56 Dancing (The rise of romanticism),

Petit basset griffon vendéen, P:326

Petit Brabançon Brussels griffon, B:602

"Petit Carème"

Trinidad and Tobago (Land and cli-

rial), P:337

Textile (Manufactured fibres), T:170

matel, T:406

Petit mai See Saint Petersburg Petrovic, Djordge Epilepsy, E:312 Petrol. P:329 Serbia (History), S:268 Petit point, P:326 with picture Fuel (Liquid fuels), F:478 Petty larceny Needlepoint, N:67 Petroleum, P:335 Convicts in Australia (Background of Petit Testament, Le [poetry by Villon] Tetraethyl lead, T:166 the convicts), Ci:321 Villon, François, V:395 Petty, Sir William English economist Petrol engine, P:331 with pictures Petit Trianon See also list of Related Articles Econometrics, E:59 Marie Antoinette, M:205 Petunia, P:354 with picture Engine, E:253 Versailles, V:349 Fuel injection, F:479 Petuntse Petit, Roland [French dancer], P:326 Heat (Changing heat into motion), Porcelain, P:688 Petitgrain bigarade Peverli Castle [England] Petitgrain oil, P:327 Ignition, I:28 with diagram Derbyshire (Places to visit), D:127 Petitgrain oil, P:327 Petrolatum, P:334 Pevsner, Antoine (Russian artist), P355 Petition [law], P:327 Wax (Mineral wax), W:106 with picture Petition of Right (English history), P:327 Petroleum, P:335 with pictures and Pevsner, Sir Nikolaus (German-born Bill of rights (English Bill of Rights). author), P:355 B:293 See also list of Related Articles Pewar, Daya [Indian writer] Charles I, C:350 Azerbaijan (Economy), A:897 India, Literature of (Dalit literature). Democracy (Democracy in Britain), Energy supply, E:247 1:129 D:103Fuel (Liquid fuels), F:478 Pewee English (The first Stuarts), E:278 Indonesia (Mining), I:192 See Wood pewee PETN [explosive], P:327 Iran (Mining), I:337 with picture; Pewter, P:355 with picture Ammunition (Artillery ammunition). (Trade) I:340; (The Qajar dynasty) Alloy (Costly and ornamental alloys), A:335 L:341 A:278 Peto Iraq (Industry), 1:345 Pevote Wahoo, W:5 Organization of Petroleum Exporting See Mescaline Petra [ancient city], P:327 Countries (OPEC), 0:496 Pfister, Albrecht (German printer) Jordan (Early days), J:144; picture on Pacific Ocean (Importance of the Illustration (Printed illustrations), 1:34 1:141 ocean), P:15 pH (chemistry), P:356 with picture Petracco, Francesco Scotland (Energy sources), S:165 with Phaëthon [Greek mythology], P:356 See Petrarch picture **Phagocyte** Petrarch [Italian poet], P:327 Texas (Economy), T:168 Blood (Protecting against disease), Italian literature (Humanism and the Venezuela (Economy), V:332 R:396 Renaissance), 1:445 Petroleum coke, P:354 Metchnikoff, Élie, M:380 Renaissance (Humanism), R:215 Petroleum engineering **Phagocytosis** Petrel, P:327 Engineering, E:258 Blood (Protecting against disease), Petrie Collection of the Native Music Petroleum ether of Ireland, The [work by Petrie] Benzine, B:241 Immune system (Parts of the immune Petrie, George, P:328 Petroleum industry system), I:39 Petrie, Andrew [Australian pioneer], Petroleum, P:350 Phaistos [Crete], P:356 Shetland, \$:356 Phalange Petrie, George [irish artist], P:328 Petroleum ielly Foot (The bones), F:316 with diagram Round towers, R:412 Petrolatum, P:334 Hand (Parts of the hand), H:39 with dia-Petrie, Sir Flinders (English archaeolo-Wax (Mineral wax), W:106 gist], P:328 Petroleum products Wrist diagram on, W:421 Archaeology (The 1800's), A:504 Petroleum (Some uses of petroleum **Phalanger** Petrie, Thomas [Australian pioneer], Marsupial (Kinds of marsupials), M:228 products; table), P:337 P:328 Petroleum wax Possum, P:710 with picture Petrie's Essay on the Antiquities of Wax (Mineral wax), W:106 **Phalanx** Tara work by Petriel Petrology, P:354 Army (Ancient armies), A:592 Petrie, George, P:328 Geology (table), G:92 Phalarope, P:357 with picture Petrifled forest, P:328 Science (Geology), S:140 Bird (Birds of the Arctic) picture on, Tree (Fossil trees), T:376 with picture Petronius (Roman author), P:354 B:320 Petrified Forest, The [film] Latin literature (The Imperial Period), Bogart, Humphrey, B:419 Phantascope Jenkins, Charles Francis, J:83 Petrified Forest, The play by Sher-Phantom of the Opera, The Imusical Novel (Ancient Greek and Roman narwoodl ratives), N:311 by Lloyd Webberl Sherwood, Robert Emmet, S:356 Petrouchka (baliet) Lloyd Webber, Andrew, L:343 Petrochemicals, P:328 Ballet (Russian ballet), B:56 Musical comedy (Musical comedy See also list of Related Articles Fokine, Michel, F:285 today), M:740 Gas (Gas in industry) picture on, G:49; Phantom Rickshaw, The book by Kip Stravinsky, Igor (Early works), So:350 (Gas products) G:50 Petrov Affair, P:354 Houston (Economy), H:331 Kipling, Rudyard (His works), K:286 Petrov, Evdokia Alexeyevna wife of Hydrocarbon, H:400 Phar Lap [race horse], P:357 with pic-Vladimir Petrovi Imperial Chemical Industries (ICI), 1:45 Petrov Affair, P:354 Petroleum (Petroleum as a raw mateture Petrov, Vladimir [Russian diplomat] Phar Lap (work by Williamson)

Australia, History of (The Petrov Affair),

A:822

Williamson, David, W:258

Pharaoh (title), P:357

Petrograd

Petrov Affair, P:354

Egypt, E:100 Plastics (Kinds of plastics), P:579; (The New Testament (Paul's missionary loseph (A slave in Egypt), 1:147 invention of bakelite) P:582 journeys), N:136 Mummy, **M:700** Phenological map Philidor Valley of the Kings, V:303 Phenology, P:360 Chess (History), C:384 Pharaoh hound, P:357 with picture Phenology, P:360 Philike Hetairia Pharisees |religious group|, P:358 Zhu Kezhen, Z:493 Greece (Ottoman Turkish rule), G:341 lerusalem (Ancient times). 1:93 Phenolohthalein (chemical compound). lews (The Hellenistic period), 1:113 Macedonia [historical region], M:8 Philip II (king of France), P:365 with por-Laxative, L:123 Sadducees, S:8 Phenomena of Life Common to Ani-Sanhedrin, S:74 mals and Plants [book by Bernard] Crusades (The Third Crusade), Cl:463 Pharmacist Medicine (The role of medical work-France (Growth of royal power), F:413 Bernard, Claude, B:258 Phenomenology, P:361 Louvre, L:404 ers), M:309 Paris (Early years), P:183 Philosophy (Philosophy in the 1900's), Pharmacy, P:358 Philip II [king of Macedonia], P:366 with World, History of the, W:345 P:426 picture Phenomenology of Spirit [book by Pharmacology, P:358 Alexander the Great (His boyhood). Drug (Scientific advances), D:318 Hegel] A:243 Hegel, G. W. F. (Hegel's writings), Pharmacopoeia, P:358 Pharmacy, P:358 H:133 Hospital (Professional services depart-Phenotype ments). H:315 Heredity (table), H:166 Phenylalanine Pharos of Alexandria Brain (Genetic disorders), B:517 Alexandria (History), A:245 Thebes, T:210 Phenylketonuria (PKU), P:361 Lighthouse (History), L:267 Thessalv, T:219 Phenylalanine hydryoxlase Seven Wonders of the Ancient World Phenylketonuria (PKU), P:361 The Lighthouse of Alexandrial, S:282 with picture Phenylalycine Pharsalus, Battle of, P:359 Indigo, 1:179 Phenylketonuria (PKU), P:361 Caesar, Julius (Civil war), C:13 Pharyngeal tonsils Brain (Genetic disorders), B:517 Escorial, E:324 Cell (Metabolic diseases), C:302 Adenolds, A:46 Tonsil, T:296 Enzyme, E:310 Mary I, M:236 Heredity (table). H:169 Pharyngitls (disease), P:359 Mental retardation (Causes), M:357 Pharynx (anatomy), P:359 with picture Phenyithiocarbamide (PTC) [chemical] Fish (Digestive system), F:168 Heredity (Dominant and recessive Human body (The air passages), H:355 So:190 genes), H:167 Respiration (External respiration), Pheromone, P:361 R:239 Animal (Courtship behaviour), A:405 Throat, T:230 Ant (Communication), A:432 Tongue, T:296 Bee (The honey bee colony), B:185 Trachea, T:323 Phase (astronomy) Butterfly (The life cycle of butterflies), Mercury, M:362 B:687 Cotton (Care during growth), Cl:385 Moon (The phases of the moon), Salic law, S:50 Pesticide (Pesticides and the environ-M:591 with diagram Venus, V:339 ment), P:319 Phase [chemistry], P:359 Phidlas [Greek sculptor], P:361 Phase change material Philadelphia lancient Greecel, P:362 P:368 Solar energy (Solar heating), So:24 Philadelphia (U.S.A.), P:362 Phase rule (physics) See also list of Related Articles ture Chemistry (Development of physical American literature, A:311 Pennsylvania, P:262; (History) P:262 chemistry), C:371 Gibbs, Josiah Willard, G:154 Philadelphia Story, The [film] Salic law, S:50 Pheasant, P:359 with pictures Cukor, George, Ci:488 Bird picture on, B:324 Philadelphia [ship] picture Pheldippides Decatur, Stephen, D:65 Marathon, M:197 Philanthropy, P:364 Phelloderm See also list of Related Articles Bark (Inner bark), B:110 Philaster iplay by Beaumontl Stem (Woody stems), So:316 Beaumont, Francis, B:175 Phellogen **Philatelist** Bark (Inner bark), B:110 Stamp collecting, So:270 Phenacetin (drug) **Philately** Paracetamol, P:159 Stamp collecting, So:270 Phenoi **Phileas Fogg** Disinfectant, D:199 Verne, Jules, V:347 Petroleum (Solvent extraction), P:349 R:423 Philemon and Baucis, P:364 Phenolic resin

Philemon, Epistle to [New Testament],

P:364

Bakelite, B:33

Demosthenes, D:105 Greece, Ancient (The rivalry between Athens and Sparta), G:354 Macedonia, M:8 Olympias, 0:434 Philip II [king of Spain], P:365 Drake, Sir Francis (Expeditions against Spain), D:283 Elizabeth I (Problems at home and abroad), E:212 Madrid (History), M:38 Spain (The Spanish Empire), So:183 Spanish Armada (Background to battle), So:190; (The two fleets) William I, Prince of Orange, W:256 Philip IV [king of France], P:365 with pic-France (Growth of royal power), F:413 Knights Templars, K:304 Pope (The troubles of the papacy), Philip of Bethsaida, Saint (apostle), P:367 with picture Philip the Evangelist [Biblical figure], Philip V iking of Spainl, P:366 with pic-Philip VI (king of France), P:365 See also list of Related Articles Philip, King [Indian chief], P:366 with Indian wars, 1:174 Philip, Prince [Duke of Edinburgh], P:367 with picture Battenberg, B:153 Charles, Prince, C:353 Duke of Edinburgh's Award, D:341 with pictures Elizabeth II (The royal family), E:214 Royal families (Europe), R:419 Royal Family of the United Kingdom, United Kingdom picture on, U:50 Philipe, Gérard (French actor), P:368

See also list of Related Articles

Australia, History of (The foundation of

first fleets) A:799 with picture

Australia, Literature of (Early prose),

Convicts in Australia (Convict ships),

A:830

Ci:321

First Fleet, F:148

Botany Bay, B:481

Australia (1788-1850)), A:798; (The

Philippi (ancient city), P:368 with picture New South Wales (History), N:133 Pragmatism, P:735 Philippians, Epistle to the New Testa-Squatters in Australia (The first arriv-Wittgenstein, Ludwig, W:283 als), So:250 Philosophy of Conflict and Other Es mentl. P:368 New Testament (Paul's missionary Sydney. So:504 says, The book by Ellis Phillip Island, P:419 journeys), N:136 Ellis, Havelock, E:217 Philosophy of Rhetoric, The book by Philippics [speeches] Phillip Laing [ship] Cicero, Marcus Tullius (His works), Dunedin, D:349 Richardsl Cl:2 Phillips, Alonzo D. [American inventor] Richards, I. A., R:268 Demosthenes, D:105 Match (The first matches), M:253 Philosophy of Right book by Hegell Philippine falconet Phillips, Mark (husband of Princess Hegel, G. W. F., H:128 Falcon (Smaller falcons), F:14 Philosophy of the Practical (book by Royall Philippine Long Distance Company Elizabeth II (The royal family), E:214 Crocel (PLDT) Phillips, Wendell | American orator|, Croce, Benedetto, Ci:446 Telephone (Philippines), T:109 Philosophy (mural by Klimt) Philippine Trench Philodendron, P:419 with picture Klimt, Gustav, K:296 Philippines (Land and climate), P:377 Philotogy Phipps, James (patient of lenner) Philippines, P:369 with pictures and See Linquistics Jenner, Edward (Jenner's work), J:83 maps Philosopher's stone with picture See also list of Related Articles Alchemy, A:236 Phlebitis [Inflammation], P:427 Association of Southeast Asian Na-Magic (During the Middle Ages), M:46 Vein, V:324 tions (ASEAN), A:673 Philosophes (philosophy), P:419 **Phloem** Aviation (Aircraft nationality marks). French Revolution (Background), F:451 Bark (Inner bark), B:110 A:861 Philosophy (Age of Reason), P:425 Leaf (Photosynthesis), L:130 Communism (In non-Communist coun-Political science (Liberalism), P:654 Plant (Parts of plants), P:553 tries), Ci:244 Pope (The 1700's and 1800's), P:678 Root (The core), R:393 De la Cruz, Apollinario, D:91 Philosophia Sap, \$:85 with diagram Education, E:87 Philosophy (Oriental philosophy), Stem (Herbaceous stems), So:315 with Flag picture on, F:206 P:422 diagrams Free port, F:430 Philosophiae Naturalis Principia Tissue (Plant tissue), T:263 Girl Guides and Girl Scouts, G:170 Mathematica (work by Newton) Tree (Trunk and branches), T:377 with Government, G:275 Newton, Sir Isaac (The Principia), diagram Hukbalahap, H:345 N:188 Phloem necrosis [plant disease] MacArthur, Douglas, M:3 Philosophical analysis Elm, E:218 Manila, M:156 with picture Philosophy (Philosophy in the 1900's), Phlogiston theory Police, P:642 P:426 Chemistry, C:369 Romulo, Carlos Pena, R:385 Philosophical Dictionary (work by Vol-Phlox, P:427 Scouting, S:181 Phnom Penh (Cambodial, P:427 Telephone, T:109 Voltaire (Later years), V:424 Cambodia, C:45; (Economy) C:46 with Television, T:126 Philosophical Investigations book by picture Trade unions, T:330 Wittgenstein Phobla, P:427 Philippines, Armed services of the, Wittgenstein, Ludwig, W:284 Mental illness (Anxiety and related dis-P:390 with picture Philosophical Letters (work by Volorders), M:352 Philippines, Art of the, P:391 with pic-Personality (Emotional reactions), tures Voltaire (Exile and return to France), P:300 Philippines, Government of the, V:424 Phobos [astronomy] P:395 with pictures Philosophical literature Mars (Satellites), M:223 with picture See also list of Related Articles Greek literature, G:357 Space exploration (Sending people to Philippines, History of the, P:402 with Philosophical rationalism Marsl. So:162 pictures Rationalism, R:143 Phoebe [bird], P:428 See also list of Related Articles Philosophy, P:420 Phoebe (satellite) Philistines, P:416 See also list of Related Articles Saturn (table), S:101 David (Early life), D:44 Age of Reason (Influence of the Age of Phoenicia, P:428 with map Palestine (Early history and Hebrew Reason), A:156 See also list of Related Articles Settlement), P:102 Exploration (Ancient and medieval ex-Aristotle, A:568 Samson, S:62 Bradley, Francis Herbert, B:506 ploration), E:417 West Bank (History and government), Buddhism (Buddhist schools of philos-Mediterranean Sea (History of the W:157 ophy), B:617 Mediterranean), M:323 Phillip, Arthur Australian government Comte, Auguste, Cl:271 Ship (Phoenician and Greek ships), official), P:416 with portrait and map Confucianism, Cl:277 S:365 with pictures

Cynic philosophy, Ch512

Greece, Ancient, G:349

Hinduism (The six schools of philoso-

Mathematics (Philosophies of mathe-

matics in the 1900's), M:260

Peripatetic philosophy, P:283

Political science, P:653

phy), H:210; (Philosophical ideas)

Germany, G:121

H:215

Spain (Early days), So:182 Transportation (The first great civilization), T:349 World, History of the (Middle Eastern civilizations), W:336 Phoenician language Alphabet (The Phoenicians), A:282 with pictures Hittites (Way of life), H:232 Phoenician Women, The Iplay by Eur

ripidesl Euripides, E:355 Phoenicians (people) Algeria (History), A:265 Beirut, B:208 Phoenix [shlp] Ship (Oceangoing steamships), \$:372 Phoenix [Greek mythology], P:430 Phoenix [U.S.A.], P:430 Phoenix and the Turtle, The" [poem by Shakespeare

Shakespeare, William, S:322 Phoenix Too Frequent, A [play by Fry]

Frv. Christopher, F:477 Phon (unit of measure), P:430 Sound (Measuring sound), So:52

Phonation Dolphin (Group life), D:253

Whale (Group life), W:210 Phonetic hieroglyph Hieroglyphics (Development of hieroglyphic writing), H:193

Phonetics (speech), P:430 Writing, W:423 Phonics [language], P:431

Reading, (Comprehending what is perceived), R:152; (Phonics Instruction) R:154 with picture

Phonogram

Hieroglyphics (Development of hieroglyphic writing), H:193

Phonograph

Communication (In the late 1800's), Cl:232; picture on Cl:234

Edison, Thomas Alva, E:81 with picture Invention (The late 1800's), 1:318; picture on 1:316

Record player, R:163

Phosphate, P:431 Baking powder, B:34

Cell (Producing energy), C:298; (DNA wondrous ladder) C:300 with dia-

Detergent and soap (The development of detergents), D:139

Fertilizer (Mineral fertilizers), F:59 Heredity (The structure of DNA), H:170 Nauru (Economy), N:50; (History) N:50

Nucleic acid, N:341 Phosphoric acid, P:432

Phosphorus, P:432 Uranium (Sources of uranium), U:272

Phosphor, P:431 Electric light (Gaseous-discharge

lamps), E:150 Fluorescent lamp, F:274

Phosphorescence, P:432 Phosphoric acid, P:432

Acid (Inorganic acids), A:24 Phosphorus (element), P:432

sotope diagram on, 1:427 Match (The first matches), M:253

Nutrition (Minerals), N:364 Phosphorus cycle, P:433

Radioactivity (in research), R:89 Phosphorus cycle, P:433 with diagram Phossy law

Match (The first matches), M:253 Phot lunit of measurement

Foot-candle, F:317 Photo-Secession Steichen, Edward, Soc311 Photocathode [television] Image orthicon, 1:34

Photomultiplier tube, P:466 Photocell

Electric eye, E:144 with diagram

Photochemical glass Glass (Kinds of glass), G:190 Photochemical smog

Ozone, 0:542 Smog, \$:500

Photochemistry, P:433 Photochromic glass

Glass (Kinds of glass), G:190; (Modern glassmaking) G:200

Photocomposition, P:433 Communication (The development of

modern communication), Cl:234 Printing (Typesetting), P:781 Photoconductive cell

Electric eye. E:144 with diagram Photoconductive effect

Photoelectric effect, P:435 **Photoconductivity**

Light, L:262 Photocopying, P:434 **Photodiode**

Electronics (Electronics and light), E-100

Photoelectric cell

Electric eye (How electric eyes work),

E144 Photoelectric cell

Electronics (The development of electronics), E:192

Photoelectric effect, P:435 Einstein, Albert (The papers of 1905), E:133

Light (Photoelectric and photoconductive effects), L:262 with diagram Photon, P:467

Quantum mechanics (History), Q:6

Photoelectric photometer Observatory (Optical observatories), 0:380

Light, L:262 Photoelectrochemistry Electrochemistry, E:174

Photoelectricity

Photoemissive effect Photoelectric effect, P:435

Photoengraving and photolithography, P:436

See also list of Related Articles Printing (Page makeup), P:781 Photoflash bomb

Bomb (Other conventional bombs), B:435

Photogelatin printing Printing (Collotype printing), P:786

Photogrammetry, P:439 with pictures Map (Observation and measurement),

Mountain (Measuring mountains), M:670

Photographic copying Photocopying, P:434

See also list of Related Articles Ballistics (Terminal ballistics), B:59 Brady, Mathew B., B:507 Communication (in the early 1800's), Cl:231 with picture Eastman, George, E:50

Photography, P:440 with pictures

Friese-Greene, William, F:460 Herschel, Sir John Frederick William, Karsh, Yousuf, K:200

Kirlian photography, K:289 with picfrine Niépce, Joseph Nicéphore, N:202 Space exploration (Early unmanned ex-

plorations), So:142 with pictures **Photogravure** Photoengraving and photolithography,

P:438 with diagrams Photogravure press Printing (Gravure presses), P:785 **Photolithography**

Photoengraving and photolithography, P:436 Printing, P:783

Photometer Star (Measuring brightness), So:289

Photomicrography, P:466 Photomultiplier tube, P:466 with pic-

Astronomy (Optical telescopes), A:693

Caesium, C:14 Photon, P:467

Astronomy (Other telescopes), A:694 Atom (Electron energy levels), A:727 with picture Boson, **B:475**

Einstein, Albert (The papers of 1905),

Electronics (Electronics and light), E:190

Heisenberg, Werner, H:135 Laser (The nature of atoms), L:72

Light, L:258 Optics, 0:480 Particle physics (Bosons), P:206 Photochemistry, P:433

Physics (Quantum theory), P:477 Quantum electrodynamics, Q:6 Quantum mechanics (Understanding

quantum mechanics), Q:6 **Photonics**

Electronics (The development of electronics), E:193 Photoperiodism, P:467

Photosensitive glass Glass (Kinds of glass), G:190

Photosphere Sun (The sun's surface), So:414 with

picture Photosynthesis, P:467

Air (Gases of the air), A:183 Animal (Importance of animals), A:378 Botany (Physiology), B:479 Chlorophyil, C:475 Energy (Forms of energy), E:245

Fern (Parts of a fern), F:55 Forest (Environmental value), F:345 Grass, G:301

Science, S:140; (Scientific advances of

Kingdom (Biology), K:256 the 1800's) S:14B Pia mater Leaf, L:130 with diagram Brain (How the brain is protected). Physical time Oxygen (How oxygen supports life), Time (Scientific ideas about time), B:512 Piaf, Edith (French singer), P:481 O:53R T:257 Plaget, Jean (Swiss psychologist), P482 Plant (Leaves), P:554; (Photosynthesis) **Physiclan** Developmental psychology (Cognitive P:562 See Medicine Respiration (Respiration in plants), Physicists, The [play by Dürrenmatt] theory), D:145 Piano, P:482 with pictures R:241 Dürrenmatt, Friedrich, D:356 Seaweed, S:231 Physics, P:472 with pictures See also list of Related Articles Solar energy (How solar energy affects See also list of Related Articles lazz. 1:74 the earth), So:23 Astrophysics, A:701 Music (Keyboard instruments), M:729 Photosynthetic bacteria Atom (The forces within an atom), with picture Bacteria (How bacteria obtain food). Piano Concerto No. 1 music by Barber A-727 0:21 Einstein, Albert, E:130 Barber, Samuel, B:106 **Phototropism** Energy, E:245 Piano Concerto Imusic by Coplandi Plant (Environmental factors), P:562 Nobel Prizes (Nobel Prizes for physics), Copland, Aaron, Ci:340 Tropism, T:417 N:226 Piano Fantasy imusic by Copland Phototube Quantum mechanics, Q:6 Copland, Aaron, Cl:340 Electric eye, E:144 Science (The physical sciences), S:140 Piano Lesson, The [play by Wilson] Phototypesetting with picture; (Science in the early American literature (Drama), A:321 Photocomposition, P:433 1900's) 5:149 with picture Plano organ Printing (Typesetting), P:781 Solid-state physics, So:29 Hand organ, H:39 Photovoltaic cells Physiocrats (economics), P:480 Piatigorsky, Gregor (Russian-born cel-Environmental pollution (Scientific ef-Capitalism (The development of capilistl. P:485 forts), E:306 talism), C:146 Plave, Francesco Maria (Italian libret-Photovoltaic effect Economics (Early beginnings), E:64 tist] Photoelectric effect, P:435 Laissez faire, L:16 Opera (Rigoletto), La), 0:473; 0:472; Phrenology, P:468 with diagram Quesnay, François, Q:27 (Traviata Phrygia (ancient country), P:468 Physiological psychology Piazza Colonna Phuket [island, Thailand], P:468 Science (Psychology), S:141 Rome (The city today), R:364 Phyfe, Duncan [American cabinet-Physiology, P:481 Piazza di San Pietro makerl. P:468 Anatomy, A:350 Saint Peter's Church (The exterior), Phylloxera [insect], P:469 with picture Biochemistry, B:298 S:42 with picture **Phylum** Biology, B:304 Piazzi, Giuseppe [Italian astronomer] Animal (The scientific classification of Botany, **B:479** Ceres, C:328 animals), A:380; (A classification Nobel Prizes (Nobel Prizes for physiol-Pic de la Selle [mountain] of the animal kingdom) A:414 ogy or medicine), N:230 Haiti (Land), H:17 Classification, Scientific (How orga-Science, S:140 Pica nisms are classified), Ci:66; Zoology (What zoologists study), Type (Sizes of type), T:484 (Groups in classification) Cl:67 Z:506 Picabia, Francis Echinoderm, E:52 Physiosorption [physics] Dadaism, D:2 Invertebrate, 1:322 Absorption and adsorption (Adsorp-Picador Physical change, P:469 Bulifighting (The order of the bulltion), A:16 Matter (Chemical properties), M:263 Physiotherapy, P:481 with picture fight), B:640 with picture Physical chemistry, P:469 Handicapped (Rehabilitation medi-Picard, Jean Chemistry, C:371 cine), H:46 with picture Metric system (History), M:389 Science (The physical sciences), S:140 Medicine (Promoting health care), Picaresque [novel] Physical disability Literature (Forms of Literature), Li312 M:312 See also Handicapped **Phytogeography** Picaresque novel Occupational therapy, 0:384 Geography (Physical geography), G:88 Novel (Later European narratives), Physical education, P:469 with picture Phytohormones [blology] Physical fitness, P:470 with pictures N:311 Gall, G:14 with picture Spanish literature (The 1500's), So:194 See also list of Related Articles with Phytopiankton Picasso triggerfish the Physical fitness article Indian Ocean (Animal life), 1:169 Fish picture on, F:162 Physical geography Picasso, Pablo (Spanish painter), P:485 Ocean, 0:391 Geography (Divisions of geography), Plankton, P:539 with portrait and picture GiRB Pf [mathematics], P:481 Cubism, Ct:484 with picture Physical geology Painting (The elements of painting), Archimedes (His discoveries), A:511 P:36 with pictures; (Cubism) P:79 Geology (table), G:92 Circle (The use of pi), Ci-6 Physical map Decimal system (Decimals and frac-Map (General reference map), M:183 with picture Sculpture (Modern international tions), D:70 Physical metallurgy sculpture), S:215 with picture Mathematics (The Greeks and Ro-Engineering (Materials engineering), mans), M:257 **Piccadiffy Circus** E:257 Proportion, P:809 England picture on, E:261 Metallurgy, M:376 London (The West End), 1:368 Rational number, R:143 Physical optics Piccard, Auguste [Swiss physicist], Series (Working with infinite series), Optics, 0:479 S:270 P:486 with portrait Balloon (Manned exploration of the Physical science Pi Sheng

Invention (China), 1:315

stratosphere), B:64 with picture

Bathyscaph, B:152 Picts [people], P:488 B:627 Diving, Underwater (History), D:209 England (The Germanic invasions), Romanesque architecture, R:348 Exploration (Deep-sea exploration), E:274 Pierce, Franklin (U.S. president), P:490 Scotland, History of, S:168 Pierced Hemisphere (Telstar) |sculp-Piccard, Jacques [Swiss oceanogra-Picture books ture by Hepworth) Literature for children, 1:322 Hepworth, Dame Barbara picture on, pherl, P:486 Exploration (Deep-sea exploration), Picture element H:153 E:428 with picture; (table) E:429 Computer graphics, Cl:270 Pieres, Gonzalo [Argentine polo player] Pacific Ocean (Exploration), P:15 Picture game Polo (History), P:659 Piccard, Jean Swiss engineer, P:486 Pierneef, Jacob Hendrik, P:490 Game [recreation], G:24 Balloon (Manned exploration of the Piero della Francesca (Italian painter), Picture graph stratosphere), B:64 Graph, G:299 P5490 Piccelo (musical instrument), P:486 with Picture of Dorian Gray book by Piers Plowman See Langland, William Wildel picture Pleta [art] Wilde, Oscar, W:249 Flute, F:276 Michelangelo, M:434 Picture postcards, P:488 Music (Woodwind instruments), Pletermaritzburg [South Africal, P:490 Picture stone M:728 with picture Vikings (Cultural life and recreation), Pietersburg (city, South Africal, P:490 Pichincha (volcano), P:486 Pietists (religious group) V:389 with picture Pickaroon Brethren, B:553 Picture tube See Pirate Piezoelectric crystal Television, T:132 Pickerel [fish], P:487 with picture Electricity (Other sources of electric-Pictures at an Exhibition (music by Pickering, Vale of ity), E:168 Mussorasky) See Yorkshire Microphone (Crystal and ceramic mi-Mussorgsky, Modest, M:746 Pickering, William (British public sercrophones), M:441 Ravel, Maurice, R:146 vantl. P:487 Piezoelectricity, P:491 Pictures from Breughei work by Wil-Transducer, T:339 See Strike Piezoeiectricity, P:491 Williams, William Carlos, W:258 Pickett, George Edward | American Quartz (Properties and uses), Q:9 Pictures of Fidelman book by Malageneral), P:487 with portrait Pig. P:491 with pictures Pickford, Mary [American film star], See also list of Related Articles Malamud, Bernard, M:77 P:487 with portrait China (Economy), C:454; picture on Film industry (Best performance by an Pidgeon process C:456 Magnesium (How magnesium is obactress), F:97 Pig-casting machine Pickle (food), P:487 tained), M:51 Iron and steel (Casting iron pigs), 1:391 Pidgin (language of Papua New Guinea) Cucumber, Ci:487 Pia iron See also Pidgin English; Papua New Pickling Iron and steel, 1:387 Vinegar (Uses of vinegar), V:396 Guinea, P:489 Smelting, S:497 Pickup cover Pidgin English (language), P:489 Pigeon, P:494 Culture (Contact with other cultures), Recreational vehicle, R:170 Bird picture on, B:334 Picnic (play by Inge) Homing pigeon, H:256 with picture Language (Unusual languages), L:53 Inge, William, 1:233 Pigeon guillemot Pacific Islands (Languages), P:5 Pico Duarte (Dominican Republic) Guillemot, G:412 Solomon Islands (People), So:31 West Indies (Land), W:169 Pigeon hawk Pico Mogotón [Nicaraguan mountain] Vanuatu, V:313 Falcon (The peregrine falcon), F:12 Nicaragua (Land and climate), N:193 Pie chart Pigeon racing, P:497 with picture Picofarad Graph (Circle graphs), G:300 Homing pigeon, H:256 Capacitance, C:133 Piece dyeing Pigeon's blood red Farad, F:26 Dye (Dyeing textile materials), D:362 Ruby, R:441 Picric acid, P:488 Wool (Making fabric), W:312 Piofish Piece-mould method [manufacturing] Pictograph, P:488 Grunt, G:389 Alphabet (The earliest alphabets), Sculpture (China), S:200 Piggott, Lester [British jockey], P:497 Piece of eight (money), P:489 A:282 Plggyback booster Asia (The Huang He and Yangtze Val-Pieced quift Rocket (Space travel), R:318 Quilt, Q:29 leys), A:657 Plament, P:497 Aztec (Language), A:900 with picture Piecework, P:489 Colour (Mixing colorants), Cl:195 Pied Piper of Hamelin [mythical char-Chinese language (Written Chinese), Eye (The retina), E:437 acter], P:489 with picture Fish (Skin and colour), F:167 Communication (Prehistoric times), Piedmont [Argentina] Hair (The root and shaft), H:11; (Colour Argentina, A:559 Ci:229 and texture) H:11 Cortés, Hernando picture on, Ch:367 Piedmont [Italy], P:490 Hormone (Other hormones), H:279 Cuneiform, Ci:497 Piedmont [U.S.A.] Octopus, 0:409 Handwriting (The first writing sys-North Carolina, N:259 Paint, P:23 Pennsylvania (Land), P:263 tems), H:53 Painting (Painting materials), P:38 Hieroglyphics (Development of hiero-United States, U:207 Pencil (Coloured pencils), P:255 Piepoudre, Court of, P:490 glyphic writing), **H:193** Skin (Epidermis), S:469 with diagrams, Indian, American (Writing), 1:149 Pier, P:490 (Skin colour) S:470 Indus Valley civilization (Development Architecture (table), A:514; (Roman-Pigment figure of the Indus civilization), 1:206; esque architecture) A:524 Wood (Wood figures), W:300 Building construction (Foundations), (Indus culture) **I:206**

Vaughan Williams]

Pindling, Lynden O. Bahamian political Vaughan Williams, Ralph, V:319 **Pigmles** Pilgrims' Way, P:500 See Pygmies leader Pignut hickory Surrey (History), So:445 Bahamas (History), B:30 Hickory, H:191 with picture Pilipino (language) **Pindus Mountains** Greece (Land), G:337; picture on G:334 Pigweed, P:497 Philippines (Languages), P:372 Pine, P:503 with picture Pika [animal], P:498 with picture Pillai, Samuel V. [Indian writer] Animal picture on, A:382 India. Literature of (The birth of nation-Pine Gap [Australia], P:504 Pike [fish]. P:498 with picture alism). 1:128 Pine marten Pike perch Piliar of Fire [ballet] Marten, M:230 Pine oil [disinfectant] Perch, P:279 Ballet (Existing music), B:53; (Ballet Pilaf [food] today) B:58 Disinfectant, D:199 Azerbaijan (People), A:896 **Pillars of Hercules** Pine-tree shilling (money), P:504 Turkey (Food and drink), T:458 Gibraltar, Strait of, G:155 Colonial life in America (Trade and in-Uzbekistan (People), U:293 Pillars of Society [play by ibsen] dustry), Ci:185 Pilâtre de Rozier, Jean F. (French sci-Realism (In drama), R:160 Pineal gland (anatomy), P:505 with pic-Piliay, Nariana (Singapore business-Aeroplane (First manned flights), A:76 man], P:501 Gland (table), G:182 Balloon (History), B:63 Pilibug Psychology (Beginnings), P:829 Montgolfier brothers, M:578 Wood louse, W:301 Pineapple, P:505 with pictures Pilanesberg (mountain, South Africal Pillory [punishment], P:501 with picture Pinero, Sir Arthur Wing British dram-North West (Land), N:264 Pillow Book, The (book by Sei) atisti, P:506 Pilate, Pontius (Roman governor), P:498 Japanese literature (The Heian period), Drama (English drama), D:299 with picture 1:63 Pines of Rome, The [music by Re-Jerusalem (Roman rule), J:93 Ptilow lava spighil Jesus Christ picture on, J:99 Basalt, B:123 Respighi, Ottorino, R:239 Pilau Ifood) Pilot, The [book by Cooper] Pines, Isle of Pakistan (Food), P:95 Cooper, James Fenimore, Ch:336 Isle of Youth, 1:424 Pilbara (Australia), P:499 Ping-pong Pilchard See also Aeroplane Table tennis, T:3 with pictures Sardine, 5:89 Ship (Navigating a ship), S:382 Pinhole Pilcher, Percy (British Inventor) Pflot whale, P:501 Camera picture on, C:53 Aeroplane (First manned flights), A:76 Dolphin (Other species), D:252; pic-Pinhole projector Pile (construction), P:499 ture on D:251 Eclipse (Solar eclipse), E:54 Building construction (Foundations), Whale picture on, W:205 Pinion B:627 with diagram Pilotage (navigation) Gear (How gears work), G:67 Pile [textiles] Starter (Car starters), So:295 with dis-Aeroplane, A:102 Velvet, V:326 Pilotfish, P:501 with picture gram Pile driver **Plloting** Pink (plant), P:507 Building construction (Foundations), Navigation, N:52 Carnation, C:204 B-627 **Pilotweed** Pink bollworm (insect), P:507 with pic Plie foundation Compass plant, Cl:249 tures Building construction (Foundations), Pilsen Pink Marsh grapefruit B:627 See Plzen Grapefruit, G:298 Pile weave Piłsudski, Józef Polish patrioti, P:501 Pink-necked fruit dove Weaving (Fancy weaves), W:125 Poland (The struggle against foreign Bird picture on, B:325 Piles [disorder] rule), P:632; (Rebuilding the Polish Pink salmon Haemorrhoids, H:6 Salmon (Kinds of salmon), S:53 with nation) P:632 Pilgrim Fathers, P:499 with picture Piltdown man [anthropology], P:502 picture American literature (New England), Pinkerton, Allan (American detective), Pima (tribe) A:310 Indian, American (Indians of the P:507 Massachusetts, M:246 Southwest), 1:159 Pinkeye Puritans (Puritans in America), P:867 Pima cotton Conjunctivitis, Cl:286 Pilgrimage of Grace [English history], Cotton (Kinds of cotton), Ch382 Eye (Diseases of the eye), E:441 Pinkie, Battle of [English history], P508 P:500 Pimento (tree), P:502 with picture Pilgrimages, P:500 Pimpernel [plant], P:502 Pinmould Fungi (Common kinds of fungi), F486 Andorra (People), A:360 Pimple, P:502 Architecture (Romanesque architec-Acne, A:24 with picture Pinocchio ture), A:524 Rin Collodi, Carlo, Cl:166 Buddhism, B:617 Pinochet Ugarte, Augusto |Chilean Golf (The course), G:245 Hinduism, H:213 Pin [fastener], P:502 with pictures military leaderl Islam (Pilgrimages to Mecca), 1:416 Chile (Marxism and military rule), Pin-lever watch Religion (Religious rituals), R:199 Watch (Mechanical watch), W:66 C:426; (Chile today) C:426 Tourism (History), T:312 Pln screen animation Pinochie [game], P:508 Pilgrim's Progress, The (book by Bun-Animation, A:421 Piñon [tree], P:508 yan] Piñata **Pinscher** Bedfordshire, B:181 See Doberman pinscher; Miniature Christmas (In Latin America), Cl:491 Bunyan, John, B:646 with picture pinscher Pilgrim's Progress, The Imusic by Pindar (Greek poet), P:503 Pint lunit of measure), P:508

Ode, 0:410

Pinta

Gas. G:48; (Development of the natural Caravel, C:186 See Mount Pisgah Columbus, Christopher (First vovage gas industry) G:56; (Transmitting Pisiform bone westward), Ci:207 with picture and distributing gas) G:51 with Hand (Parts of the hand), H:39 Pintall, P:508 with picture Wrist diagram on, W:421 Pinter, Harold (English playwright), O'Connor, C. Y., O:404 with picture Pisistratus [ruler of ancient Athens], Petroleum (Transporting petroleum). Drama (Later British drama), D:301 P-3.67 Athens (Earliest times), A:707 with picture Pipe, P:514 with pictures Library (Libraries of papyrus), L:229 South Australia (Irrigation, reservoirs, Solon, So:33 Pinto Horse picture on, H:291 and pipelines), So:111 Pissarro, Camille (French painter), Pintubis [people], P:509 Transportation (International freight), T:359 with picture Pinwheel Impressionism (French impression-Piper Cherokee ism), **I:46** Freworks, F:140 Aeroplane picture on, A:90 Pissis [mountain] Pinworm, P:509 Piper, John British artistl, P:518 Andes Mountains (Physical features), Plnyin Plpis [shellfish], P:518 China (Languages), C:440 Chinese language (Development), **Pipistrelle** Pistachio nut, P:522 Bat (Kinds of bats), B:148 Pivtil Pinzón, Martín Alonso Pipit [bird], P:518 with picture Flower, F:262 with diagram Grass (The grass plant), G:301 Columbus, Christopher (First voyage Pippa Passes [play by Browning] Orchid (Parts of orchids), O:489 westward), Ci:207 Browning, Robert, B:595 Plant (Flowers), P:555 with picture; (In Pinzón, Vincente Yáñez Pir Panial flowering plants) P:556 Columbus, Christopher (First voyage Jammu and Kashmir (Land features), westward), Ci:207 Pollen, P:655 1:26 Seed (Seed development in angios-Plo Duarte [Dominican Republic] **Piracy** West Indies (Land), W:169 Singapore (Piracy and crime), S:448 perms), S:236 Plon **Pistillate** See also Pirate Hemp, H:150 Hadron, H:4 Piraeus [Greece], P:518 Pirandello, Luigi (Italian writer), P:518 Pistol Meson, M:370 Colt. Samuel. Ci:203 Ploneer Drama (Italian drama), D:299 Firearm, F:137 with picture Italian literature (The 1900's), 1:446 Pioneer life in Australia and New Zea-Handgun, H:41 with pictures land, P:509 with pictures Nobel Prizes (Literature), N:232 Ploneer ispace probel Piranesi, Giovanni Battista litalian Highwayman, H:199 Piston Jupiter (Flights to [upiter), J:172 printmaker!, P:519 with picture Petrol engine (Parts of a reciprocating Space exploration (Lunar probes), Piranha, P:519 with picture petrol engine), P:332 So:143; (Solar probes) So:144; Fish (Harmful fish), F:154; picture on Steam engine (History), So:308 with (Probes to Jupiter and beyond) pictures So:145 South America (Animals), So:95 Pit. The (book by Norris) Venus (Surface and atmosphere), Pirate, P:519 with picture See also list of Related Articles Norris, Frank, N:245 V:340 Pioneer life in Australia and New Pit buil [dog], P:523 Hong Kong (Early days), H:270 Pit organ |zoology| Zealand, P:509 with pictures Pirate, The [film] Animal (Adaptations for sensing the Ploneer Venus (spacecraft) Kelly, Gene, K:212 environment), A:401 Pirate and the Three Cutters, The Venus (Flights to Venus), V:342 Planeers, The book by Cooperl Plt viper **[book by Marryat]** Bushmaster, B:671 with picture Marryat, Frederick, M:220 Cooper, James Fenimore, Ci:336 Snake (Vipers), S:516 Ploneer-Saturn (spacecraft) Pirate spider Viper, V:400 let Propulsion Laboratory, J:107 Spider (Enemies), S:226 Pita [food] Hous Agent, The [book by Braine] Pirates of Penzance, The lopera by Arabs (Food and drink), A:491 Braine, John, B:520 Gilbert and Sullivani Pipai Pitcairn Island, P:523 Gilbert and Sullivan, G:158 Norfolk Island, N:241 See Bo tree Pirenne, Henri (Belgian historian), P:521 Pitcairn's Island (book by Nordhoff and Polbook by Hayl Pirie, Gordon (British athlete), P:521 Hay, lan, **H:89** Haill Piroque (boat), P:521 Pipe imusical instrumentl, P:514 Nordhoff and Hall, N:239 Pisa (Italy), P:521 Pipe (tobacco), P:515 with picture Pisa, Council of [1409], P:522 Pitch Waves (Characteristics of waves), Pipe (tube), P:514 with pictures Pope (The troubles of the papacy), Pipe Dream Imusical by Hammerstein W:104 P:677 Hammerstein, Oscar, II, H:32 Pitch (angle) Pisa, Leaning Tower of Pipe organ Aeroplane (Basic movements and con-See Leaning Tower of Pisa Music (Keyboard instruments), M:729 trols), A:97 Pisano, Giovanni [Italian sculptor], Helicopter (Piloting a helicopter), with picture P:522 Organ, **O:493** 14:139 Sculpture (Italian Renaissance sculp-Inertial guidance (How inertial guid-Pipe snake ture), S:210 with picture Snake, S:516 ance works), 1:227 Pisano, Nicola (Italian sculptor), P:522 Pipe tomahawk

Sculpture (Italian Renaissance sculp-

ture), S:210

Pisces lastrologyl, P:522

Pisgah, Mount

Tomahawk, T:290

Ppefish, P:515 with picture

Pipeline, P.516 with picture

Propeller, P:807

Pitch [sound], P:524

Screw, S:183 with picture

Pitch [building material], P:524

Music (The elements of music), M:729 (Indicating pitch) M:732 with dia*arams* Sound, So:48 with diagram Pitch Lake Trinidad and Tobago (Economy), T:407 with picture Pitchbiende, P:524 Curie, Marie Sklodowska, Ci:501 Nuclear energy (How nuclear energy is produced). N:323 Uranium (Sources of uranium), U:272 Pitcher Baseball, B:125 Pitcher plant, P:524 with picture Insectivorous plant, 1:265 Plant (Insect-eating plants), P:566; pictures on P:565 Pitching Baseball, B:127 with picture PRB Elder, E:137 Potato (The potato plant), P:719 Stem (Herbaceous stems), So:315 with diagrams Pith helmet Helmet, H:146 Pitjantjatjara (people), P:525 Pitiochry [Scotland], P:525 with picture Pitman shorthand Shorthand, S:394 with diagrams Pltman, Sir Isaac (British educator), P:525 Shorthand (Pitman shorthand), S:394 Pitman, Sir James (British linguist) Initial teaching alphabet, 1:234 Pitot-static log Log. L:359 Pitot tube Log (The pitot-static log), L:359 Pitt Water (Australia) Phillip, Arthur (Exploration), P:418 Pitt, William (British statesman), P:525 Pitt, William, the Younger (British political leader], P:526 Union, Acts of (The Act of Union of 1801), U:27 Pitta, P:527 Bird picture on, B:325 Pitta bread Bread (Flat bread), B:548 Food (Customs), F:297 Pitti Palace [Italy], P:527 Pittosporum [tree], P:527 Pitts, Hiram [American inventor] Agriculture (The invention of new farm equipment), A:173 Threshing machine, T:230 Pitts, John [American inventor] Agriculture (The invention of new farm equipment), A:173 Threshing machine, T:230

Pittsburgh [U.S.A.], P:527 with picture

Pituitary gland, P:528 with picture

Brain (The brain stem), B:512

[book by Cushing]

ACTH. A:27

Cushing, Harvey, Ci:505

Pituitary Body and its Disorders, The

Diabetes (Diabetes insipidus), D:152 Giant. G:151 Gland (Endocrine glands), G:182; (table) G:182 Hormone (Human hormones), H:277 Human body (The endocrine system), H:356 Hypothalamus, H:417 Pius IV (pope), P:528 Trent, Council of, T:393 Pius IX (pope), P:529 Christianity (The rise of nationalism). CARG Immaculate Conception, 1:35 Pope (The 1700's and 1800's), P:678 Rome (The 1800's), R:369 Vatican City (History), V:317 Vatican Council I. V:318 Plus V, Saint [pope], P:528 Plus VII (pope), P:529 Rome (The 1800's), R:369 Plus X, Saint [pope], P:529 Roman Catholic Church (The church todayl, R:344 Pius XI Ipopel, P:529 Plus XII [pope], P.529 Pope picture on, P:677 Roman Catholic Church (The church today), R:344 Vatican City (History), V:317 Vulgate, V:429 Pivot joint Joint, J:136 with pictures Computer graphics, Ci:270 Pixii, Hippolyte (French instrument makerl Invention (The Industrial Revolution). 1:317 Pixilation Animation, A:420 Pizarro, Francisco (Spanish conquerorl, P:530 with picture and map Conquistadors, Ci:290 Exploration (table), E:421; (Spain's conquests in the New World) E:422 Inca (The Spanish conquest), I:51 Indian, American (After European contact), 1:162 Panama (The Spanish colonial period), P:119 Peru (Spanish conquest and rule), F-315 Pizza [food] Food (Interesting facts about food), F:294 **Pizzicato** Violin (Playing the violin), V:398 See Phenylketonuria Plaatje, Solomon Tshekisho (South African writerl, P:530 Place at Whitton, The book by Keneally) Keneally, Thomas, K:215 Place de la Concorde

Paris picture on, P:180

Place name

Name, N:11

Decimal system, D:68 Numeration systems (Kinds of numeration systems), N:344 Placebo, P:530 Statistics (Collecting the data), So:302 Placenta, P:531 Baby (Before birth), B:4 with pictures. (Birth) B:6 with picture Embryo (Human development), E:227 Human body (The reproductive system), H:358 Pregnancy (The baby during pregnancy), P:741; diagram on P:742 Reproduction, Human (Development of the embryo), R:227; (The stages of labourl R:230 Reproduction (Mammals), R:224 Toxaemia of pregnancy, T:320 Uterus, U:287 **Placental** Mammal, M:132 Prehistoric animal (Mammals), P:747 Placer mining Gold (Placer deposits), G:231 Mining (Kinds of mining), M:491 Sand, 5:69 Placoderm Fish (The first fish), F:178 Placoid scale Fish (Kinds of fish scales) picture on, Shark (Teeth and scales), \$:332 with picture Plage Sunspot (Recent findings), So:427 Piagiarism, P:531 See also Copyright Plagioclase feldspar Basalt, B:123 Crystal (Classifying crystals), Cl:469 with picture Feldspar, F:49 Igneous rock, 1:28 Plague, The (work by Camus) Camus, Albert, C:69 Plague, Bubonic See Bubonic plague Plaice, P:531 Plaid See Tartan Plain bearing Bearing, B:173 Plain, P:531 See also list of Related Articles Europe (The Great European Plain), E:371 with picture Plain Dealer, The Iplay by Wycherley! Wycherley, William, W:425 Plain People Pennsylvania, P:262 Plain stitch Textile (Weft knitting), T:171 Plain Tales from the Hills book by **Kipling** Kipling, Rudyard (His works), K:286 Basket making (Weaving), B:133 with Plain weave diagram

Place value

Tobacco (Diseases and pests), T:271

with picture

Virus (Virus diseases in plants), V:407

Planetarium, P:539 with picture Composite family, Cl:250 with picture Textile, T:171 Weaving (The plain weave), W:124 Planetary exploration Conservation, Cl:292 with pictures Geophysics, G:99 Desert (Life in a desert), D:132 with with picture Planetary gear Plainclothes officer pictures Police (Investigating crime), P:640 Gear (Types of gears), G:68 with pic-Drug (Plants and moulds), D:315 with Plains Indians picture hire Sculpture (The European impact), Transmission, T:344; diagrams on Food (Other food from plants), F:294 S:205 with picture onT:343 Fossil (Understanding ancient plants Planetary motion, laws of lastronomyl Plains viscacha (rodent) and animals), F:369 Viscacha, V:408 Kepler, Johannes, K:231 Fungal disease, F:485 Plainsawing Planet (Orbiting the sun), P:534 Gardening, G:34 with pictures Wood (Wood figures), W:300 Planetary nebula Hybrid, H:393 Nebula, N:65 Hydroponics, H:408 with pictures Plaintiff [law] Court (How civil courts work), Ci:400 Star (How stars change and die), insectivorous plant. I:265 So:288 Mountain, M:666 Libel, L:203 Planetary probe Nursery, N:352 Plaiting Basket making, B:134 with picture Rocket (Launching probes and satel-Perfume (How perfumes are made), Planarian [flatworm], P:532 lites). R:318 Planetesimal theory Poison (Plant and animal poisoning), Animal (Adaptations for moving about), A:396; (Asexual reproduc-Astronomy (Explaining the origin of tion) A:404 with diagram the solar system), A:698 Poisonous plant, P:621 Pollen, P:655 Worm (Flatworms), W:411 Earth (The birth of the solar system), Prairie (Climate and soll), P:737 Planck, Max Karl Ernst Ludwig [Ger-D-72 Respiration (Respiration in plants), Moon (The moon's surface), M:585 man physicistl, P:532 Einstein, Albert (The papers of 1905). Planetoid Soil (Effects of plants and animals), Asteroid, A:678 Light (Quantum mechanics), L:264 **Planetology** Solar energy (How solar energy affects Geology (table), G:92 Nobel Prizes (Physics), N:226 the earth), So:23 Physics (Quantum theory), P:477 Planets, The [music by Holst] Space exploration (Conducting scien-Quantum mechanics (History), Q:6 Holst, Gustav, H:250 tific observations and research), Science picture on, S:146 Planing Planck's Law and the Hypothesis of Machine tool, M:17 Tropical rainforest, T:415 with picture Ught Quanta Timber, T:252 Virus (Virus diseases in plants), V:407 Bose, Satyendra Nath, B:473 Plankton, P:539 with picture Water plant, W:88 Plane Algae (Other kinds of algae), A:250 West Indies, W:169 Architecture, A:516 Animal (Filtering mechanisms), A:398 Plant ant Set theory (In geometry), \$:277 Arctic Ocean (Ocean life), A:548 Ant, A:434 Sundial, So:424 Clam, Ci:50 Plant breeding Woodworking (Cutting), W:307 Dinoflagellate, D:174 Breeding, B:552 Plane (aeronautics) Fish (Fish in the balance of nature), See Aeroplane Fruit (Developing new varieties of P158 fruit), F:475 Plane geometry Grand Banks, G:292 Grafting (Uses of grafting), G:282 Geometry (Euclidean geometry), G:96 Ocean (Life in the ocean), 0:391 Plane mirror Hybrid, H:393 Octopus (The life of an octopus), Plant disease Mirror, M:507 with diagram 0:410 Agriculture (Chemicals to control dis-Plane of symmetry Ooze, 0:454 Crystal (Classifying crystals), Ci:469 eases), A:175 Oyster (Body organs), 0:540 Apple, A:478 Mane survey Pacific Ocean (Ocean life), P:15 Botany (Pathology), B:479 Surveying (Types of surveys), So:445 Ray, R:147 Plane table [instrument], P:532 Famine, F:24 Planned economy Plane table linstument Fungal disease, F:485 Price, P:774 Fungicide, F:487 Surveying (Early tools), So:446 Planning Gardening (Fighting diseases and Mane tree, P:532 with picture See also Town planning pests), G:40 Planet, P.533 with pictures Road, R:296 Grape (Diseases and pests), G:298 See also list of Related Articles **Planography** Maize (Controlling pests and diseases), Astrology, A:680 Printing (Printing by offset lithogra-Astronomy (The nighttime sky), A:686; phyl, P:783 Oats (Diseases and insect pests), 0:378 Stamp collecting (Printing), So:271 (The solar system) A:689; (The dis-Plant (Diseases), P:567 with picture; Plant, P:540 with pictures covery of new planets) A:699 (Control of diseases and pests) Bode's law, B:417 See also list of Related Articles Earth, E:16; (The earth as a planet) E:18 Agriculture (Improved plant and live-Horoscope (Parts of a horoscope), Potato (Diseases and insect pests), stock breeding), A:175 P:720 Animal (Importance of animals), A:378 upiter, J:170 with pictures Quarantine, Q:7 Annual, A:425 Use The search for life on other plan-Rice (Controlling diseases and pests), Aquarium (Choosing fish and plants), ets), L:250 A:484 with picture

Arctic Ocean (Ocean life), A:548

Botany, B:479 with pictures

Cell (Plant cells), C:295

Magnitude, M:60

Solar system, So:26

Venus, V:339 with pictures

Plate [industry] Plant ecology P:474 Iron and steel (Rolling), 1:395 Botany, **B:479** Rocket (Plasma jet rockets), R:321 Plant fibre Science (Physics), S:140 Plate (printing) Newspaper (Printing the paper), Nata: Fibre (Natural fibres), F:67 Solar system (The sun), So:26 See also Gas [physics] Plant geography pictures on N:184 Printing (Printing by gravure), P.784; Geography (Divisions of geography), Plasma [physiology], P:574 (Printing by offset lithography) C:88 Blood, B:393 P:783; (Printing by relief) P:782; Plant hormone Circulatory system (The blood), Cl:7 Hormone, H:279 Drew, Charles Richard, D:307 (Process colour printing) P:785 Plant kingdom Fibrin, F:69 with pictures Classification, Scientific (How orga-Plate [zoology] Gamma giobulin, G:26 nisms are classified), Cl:67 Globulin, G:211 Reptile (Skin), R:232 Plant matter Human body (The blood), H:357 Plate girder bridge Soil (Plant and animal matter), So:20 Lymphatic system (Lymph), L:425 Bridge (Girder bridges), 8:561 Plant reproduction Serum, S:272 Plate tectonics (geology), P:584 with Reproduction, R:224 Plasma cutting diagrams Plant tissue Machine tool (Other advanced ma-Continental drift, Ch316 Tissue, T:263 chining operations), M:17 Earth (Changes in the earth's crust). Plantae [biology] Plasma jet rocket E:23; (The shaping of the conti-Kingdom, K:256 Rocket, R:321 nents) E:25 with picture Plantagenet (English history), P:573 Plasma membrane [biology] Earthquake (Where and why earth-Edward II, E:93 Cell (Inside a living cell), C:294 quakes occur), E:36 Edward III, E:94 Life (Cells), L:247 Fossil (Recording changes in the Plantain (plant), P:573 Plasma spraying earth), F:370 Africa (Rural life), A:128 Machine tool (Other advanced ma-Geophysics, G:99 Food (Customs), F:297 chining operations), M:17 Indian Ocean (Ocean floor), I:171 Venezuela (Food), V:330 Plasma torch Plate tracery Plantain Illy Machine tool (Other advanced ma-Tracery, T:322 Day lily, D:52 chining operations), M:17 Plateau, P:587 Plantar arch (anatomy) Plasmodium Platelet Foot (The arches), F:316 with diagram Maiaria, M:78 with pictures Blood, B:394 with picture; (Bleeding Plantar wart Slime mould, S:487 disorders) B:400 Skin (Tumours), S:470 Plassey, Battle of Circulatory system (The blood), Cli7 Plantation, P:574 Clive, Robert, Cl:85 Human body (The blood), H:357 with Agriculture (Specialized farms), A:163 West Bengal (European traders), picture Cotton (American colonists), Ci:388 W:161 Osler, Sir William, 0:510 with picture Plaster, P:575 Platelike crystal Latin America (Rural life), L:80 Islamic art (Carved and moulded plas-Frost, F:470 with picture Slavery (Modern times), S:481; (Slavery Snow (How snow forms), S:522; picin the United States) S:481 Painting (Fresco painting), P:40 with ture on \$:521 Planté, Gaston [French physicist] picture Platemaking Battery (History), B:156 Printing (Developments in platemak Plaster of Paris, P:576 Planthopper [insect] **Plasterboard** ing), P:787 Coconut palm (Growing coconut Wallboard, W:24 Platen press palms), Cl:118 Plastic arts Printing, P:783 **Planting** Fine arts, F:110 Plateosaurus Forestry, F:357 Dinosaur (Saurischians), D:177; picture Plastic explosive, P:576 Fruit (Growing fruit), F:473 Explosive (High explosives), E-430 on D:178 Gardening, G:39 Plastic surgery, P:576 Platform diving (water sport) Tree (Planting and caring for trees), Diving (Types of diving), D:206 Medicine (The specialities), M:311 T:389 with diagrams Skin grafting, S:473 Platform scale Vegetable, V:322 Surgery, So:439 Fairbanks, Thaddeus, F:8 Plaque Piasticization Platform tennis, P:588 Angiography, A:366 Rubber, R:434 **Platforming** Hydrofoil (Kinds of hydrofoils), H:401 Angioplasty, A:366 with diagrams **Plasticizer** Arterioscierosis (Causes), A:605 Plath, Sylvia [American poet], P.588 Alcohol (Other alcohols), A:237 Heart (Coronary artery disease), H:104 Explosive (High explosives), E:430 with portrait Multiple scierosis, M:694 American literature (Poetry), A:319 Plastics (Making synthetic resins), Periodontitis, P:282 Hughes, Ted, H:342 Teeth (Cleaning the teeth), T:93; (Perio-Plastics, P:577 with pictures Platinum [element], P:588 dontal diseases) T:96 See also list of Related Articles Palladium, P:106 Plasma arc welding Engineering (Materials engineering), Zimbabwe (Mining), **Z:495** Welding (Arc welding), W:143 E:257 Platinum record Recording industry (Recording indus-Plasma (physics), P:574 Invention (The 1900's), £319 Alfvén, Hannes Olof Gösta, A:249 Packaging, P:18 try awards), R:168 Platinum resistance thermometer Magnetohydrodynamics, M:59 Plastids [cells] Matter (States of matter), M:264 Liquid air (Properties), L:304 Chloroplast, C:475 Thermometer (Electrical thermome Nuclear energy (Nuclear fusion), N:322 Plata, Río de La Physics (Fluid and plasma physics),

See Río de la Plata

ters), T:215

Bithynia, B:371

Plato (Greek philosopher), P:589 Aristotle, A:567 Atlantis, A:722 Communism (Early Communism), CI:239 Criticism (History of literary criticism). CI:442 Ethics (Systems of ethics), E:336 Geometry (Greek geometry), G:98 Peripatetic philosophy, P:283 Philosophy (Ancient philosophy), Political science (The development of political science), P:653 Socialism, So:8 Socrates (Socrates' life), So:14 Water clock, W:85 Piatonic solid Polyhedron, P:661 Platt Amendment Cuba (United States control), Cl:480 Platyhelminth Flatworm, F:222 Invertebrate, 1:322 **Platyhelminthes** Animal (A classification of the animal kingdom), A:414 Platypus, P:592 Animal (Interesting facts about animals), A:377 with picture Australia (Native animals), A:768 with Mammal (Monotremes), M:133 Mautus (Roman writer), P:592 Play (drama) See Drama, Theatre Play Irecreation], P:592 See also list of Related Articles Animal (Learning and play), A:408 Play Strindberg (play by Dürrenmatt) Dürrenmatt, Friedrich, D:356 Playback Videotape recorder, V:371 Player, Gary, P:593 Golf (table), G:248; (The rise of professional golf) G:251 with picture Player piano Piano, P:483 with picture Player Plano (book by Vonnegut) Vonnegut, Kurt, Jr., V:425 Playfair, John (Scottish mathematician) Geology (The rock dispute), G:93 Playford, Sir Thomas (premier of South Australia), P:593 Playground, P:594 Playing cards Card game, C:191 Playing dead Animal, A:404 Playschool Nursery school, N:354 with picture Plaza de toros Bullfighting, B:640 Plea bargaining (law), P:594 Pleasure with Profit | work by Tirso de

Molinal

Tirso de Molina, **T:263**

Measures of Exile (book by Lamming),

Piebeians, P:595 Patricians, P:216 Rome, Ancient (Roman Republic). R:376 Plebiscite, P:595 Piecoptera, P:595 Insect (table), 1:261 Plectrum imusici Banjo, B:90 with picture Guitar, G:419 Harpsichord, H:65 Mandolin, M:151 Pledge, The [play by Dürrenmatt] Dürrenmatt, Friedrich, D:356 Pledge of Allegiance, P:595 Platade French literature, F:446 Ronsard, Pierre de, R:385 Pleistocene Epoch, P:595 Earth (The Cenozoic Era), E:28; table on E:30 Ice Age. I:6 with picture and map; (Animals of the Pleistocene Ice Prehistoric animal diagram on, P:747 River (The mouth of a river), R:290 Plekhanov, Georgi Valentinovich Russian Marxistl, P:595 with portrait **Pleochroism** Tourmaline, T:313 Pleslanthropus Broom, Robert, B:590 Plesiosaur, P:596 Dinosaur (Plant and animal life), D176 Prehistoric animal (Other reptiles), P:746 Plessis, Armand Jean du See Richelieu, Cardinal Pleura [anatomy], P:596 Lung (Parts of the lungs), L:414 Membrane (Serous membranes), M:341 Pleurisy, P:596 Pneumothorax, P:607 Pieurisy, P:596 Plexus, P:596 Piled yarn Rope (How rope is made), R:395 Plimsoil mark, P:596 with picture Plimsoli, Samuel, P:592 Ship (Safety at sea), S:383 Plimsoll, Samuel (British coal merchantl, P:596 Plimsoll mark, P:596 Ship (Safety at sea), \$:383 Plinth Column (The Ionic column), Ch213 Pliny the Elder [Roman writer], P:596 Biology (Beginnings), B:305 Botany (Beginnings), B:480 Encyclopedia (History), E:239 Geology (The Romans), G:92 Pompeii (The eruption of Mount Vesuvius), P:664 Rome, Ancient (Science), R:376 Science (Ancient Rome), S:144 Tide (Tides follow the moon), T:240 Pliny the Younger [Roman writer],

P:597

Geology (The Romans), G:92 Pompeii (The eruption of Mount Vesuvius). P:664 Pliocene Epoch Earth (The Cenozoic Era), E:28 table on Prehistoric animal diagram on, P:747 Plique-à-jour (art), P:597 Enamel (Decorative enamelling techniques), E:234 PLO See Palestine Liberation Organization Ploiești [Romania], P:597 Plot [literature] Drama (The structure of drama), D:285 Plot ithe elements of literature Literature, L:311 Plotinus (Greek philosopherl, P:597 Neopiatonism, N:74 Philosophy (Neoplatonism), P:424 Plato (Plato's place in Western thought), P:591 Porphyry, P:692 Plough and the Stars, The play by O'-Casev Irish literature (The Irish literary revival), I;383 O'Casey, Sean, O:383 Plough, P:597 with picture Agriculture (The invention of new farm equipment), A:173 Colonial life in America picture on, Cl:184 Wood, Jethro, W:301 Ploughman and Other Poems Ipoem by Kavanagh) Kavanagh, Patrick, K:203 Ploydly (Bulgaria), P:599 Plover, P:599 Bird picture on, B:346 Plowman of Bohemia, The book by von Saaz German literature (The Interim period), G:107 Plowman, Piers See Langland, William Plowright, Joan (British actress), P:599 Plucked dulcimer Dulcimer, D:343 with picture Plucked stringed instrument Music, M:728 with pictures Plug and feather method Quarrying, Q:7 Pluq Fishing (Balt), F:184 Plum, P:599 with picture Plum curculio Weevil, W:133 Plumage [zoology], P:600 Plumb line, P:600 Pendulum (Other pendulums), P:256 Tool (Woodworking tools), T:296 Plumbago, P:600 with picture Plumbing, P:601 with diagram House, H:324 Plumule Cotyledon, Ci:390

Plant (Germination), P:560 with pic-

tures

Seed (How seeds sprout), \$:237

Plunket Society

King, Sir Truby, K:255

Plunket System

King, Sir Truby, K:255

Plunkett, Edward John Moreton Drax See Dunsany, Lord

Plunkett, Saint Oliver (Irish religious leader], P:604

Plunkett, Sir Horace Curzon (Irish political leader], P:604 with portrait

Plural (grammar)

Number, N:343

Pluralism

Government, G:270

Plurality

Majority rule, M:76

Pluscarden Abbey [Scotland] Grampian Region (Places to visit),

G:289

Plutarch [Greek biographer], P:604 Biography (Early biographies), B:301 Moon (Legend and folklore), M:594

Pluto |planet|, P:604 with picture Astronomy (The solar system), A:689:

(The discovery of new planets)

Planet, P:533 with pictures Space exploration (Probes to Jupiter and beyond), So:145

Pluto [Roman mythology], P:605

Plutonium, P:605

Nuclear energy (Experimental breeder reactors), N:331; (Hazards and safequards) N:326; (Wastes and waste disposal) N:326

Nuclear weapon (Fission weapons),

Uranium (Radioactivity and fissionability), U:273

Textile (Making the yarn), T:172 Thread, T:228

Туте, T:489 with diagram

Plymouth [England], P:605

Devon (Places to visit), D:147

Plymouth Brethren [religious group], P:605

Plymouth Colony [U.S. history] Colonial life in America, Ci:178 with

Plymouth Thanksgiving, The book by Weisgard]

Weisgard, Leonard, W:142

Plywood, P:605

Forest products, F:354 Laminating, L:35

Woodworking (Wood for woodworking), W:308

Plzeň (Czech Republic), P:606

Czech Republic (The Bohemian-Moravian Highlands), Ci:518 (Manufacturing and mining). Ci:519

P.M. Hour, H:321

AIDS (Opportunistic illnesses), A:179: (Treatments) A:180 **Plutonist** Pneumothorax [disorder], P:607 Geology (The rock dispute), G:93 Pnin |book by Nabokov|

Nabokov, Vladimir, N:2

Pnom Penh See Phnom Penh

Pm [symbol]

p-n junction

E:187

Pneumatic drill

Pneumatic tyre

Pneumoconiosis

H:96

Pneumonectomy

Pneumonia, P:606

Black lung, B:376

ics), E:185

Promethium, P:800

See Premenstrual syndrome

machinery), CE312

Dunlop, John Boyd, D:350

Pneumatics [physics], P:606

Pneumatic tool, P:606 with picture

Coal (Concentrations of coal dust),

Pneumocystis carinii idisorderi

(Treatments) A:180

ations), So:438

Health (Occupational health hazards),

AIDS (Opportunistic illnesses), A:179;

Surgery (Some common surgical oper-

Pneumatic tool, P:606

Electronics (Solid-state components),

Electronics (Terms used in electron-

Construction equipment (Demolition

Po [symbol] Polonium, P:660 Po River (Italy), P:607

Po Valley Italy, 1:458

Poaching

Africa (Native animals), A:141 Endangered species (Wildlife trade), E:242

Poème Electronique lelectronic music by Varèsel

Electronic music, E:180

Pobre Negro (book by Gallegos) Venezuela (The arts), V:331

Pocahontas [ballet by Carter]

Carter, Elliot, C:213 Pocahontas [American Indian]

American literature (Virginia), A:310 Rolfe, John, R:333

Pocahontas (work by d'Aulaires) D'Aulaire, D:43

Pocket beach

Beach, B:164

Pocket billiards

Billiards and snooker, B:294 with pictures

Pocket calculator Calculator, C:24

Pocket gopher

Gopher, G:256 with picture

Pocket knife Knife, K:297 Pocket watch

Watch (History), W:67

Pocketful of Rye, A (book by Cronin) Cronin, A. J., Ci:452

Pod

Whale (Group life), W:210 Pod maize

Maize, M:73; picture on M:74

Podgorica, P:607 Montenegro, M:575

Podgorny, Nikolai Viktorovich (Russian political leaderl, P:607

Podzol [soil], P:607

Russia (Land regions), R:475

Poe, Edgar Allan (American writer), P:608 with portrait American literature (The romance).

A:314 with portrait, (Poetry) A:314 Detective story (History), D:136

Short story, S:393

Poem

See Poetry

Poem of Ecstasy, The imusic by Scriabin]

Scriabin, Alexander, S:184

Poem of the Cid

Cid. The. Ci:2

Epic, E:311

Spain (Literature), So:173 Spanish literature (Early medieval liter

ature). So:193

Poem on Natural Law [work by Voltairel

Voltaire (Later years), V:424 Poems and Ballads [work by Swinburnel

Swinburne, Algernon Charles, So:490

Poems and Sketches of E. B. White lwork by Whitel

White, E. B., W:231

Poems and Songs (poetry by Kendall Kendall, Henry, K:215

Poems 1853-1854 (work by Heine) Heine, Heinrich, H:130

Poems by Speranza (book by Wilde) Wilde, Sir William Robert Wills, VV:249

Poems on Various Subjects, Religious and Moral [poetry by Wheat

ley Wheatley, Phillis, W:226

Poems (book by Brennan) Australia, Literature of (Other poetry),

A:831 **Poems** [poetry by Emerson]

Emerson, Ralph Waldo (His poetry), E:229

Poems [poetry by Keats] Keats, John, K:205 Poems [poetry by Riddell]

Riddell, Elizabeth, R:272

Poet and Peasant Imusic by Suppél Suppé, Franz von, So:430

Poet laureate, P:609

Poetic contraction Elision, E:211

Poetic Edda (poems)

Edda, E:74 Poetical Sketches [work by Blake]

Hitler, Adolf (The road to war), H:231

Jaruzelski, Wojciech, 1:66 with portrait

Gdańsk. G:67

Blake, William, **B:383** ture Poetics [work by Aristotle] Pointe shoes Aristotle (Literary criticism), A:569 Ballet (Classical ballet technique), B:51 Criticism (History of literary criticism), with pictures Pointer (dog), P:619 Ci:442 Drama (The structure of drama), D:285 Dog picture on. D:226 Greek literature (Philosophical litera-**Pointillism** Painting (Postimpressionism), P:77 ture). G:357 Italian literature (Humanism and the with picture Renaissance), 1:445 Seurat, Georges, S:278 foetry and Experience [poetry by Ma-Pointillist method Vermeer, lan, V:346 MacLeish, Archibald, M:21 Pointing the bone (ritual), P:619 Poison, P:619 Poetry, P:609 with pictures See also list of Related Articles See also list of Related Articles Arabic literature, A:489 Pharmacology, P:358 Venom, V:338 Ballade, B:45 Poison dart frog Idvil. I:27 Frog (Other frogs), F:468 imerick, L:282 Poison elder [tree] literature, L:316 Elder, E:137 Metaphysical poets, M:378 Metre, M:384 Poison gas Chemical-biological-radiological war-Minnesinger, M:497 Rhyme, R:258 fare (Chemical), C:364 Symbolism, So:516 Fumigation, F:483 Writing, W:422 Gas mask, G:59 Poets' Corner Iraq (War with Iran), I:347 Poison (Kinds of poisons), P:620 Westminster Abbey, W:195 Poet's Home, A (poetry by Harpur) World War I (Trench warfare), W:367 Harpur, Charles, H:65 with picture Poet's narcissus Polson Ivy, P:620 with picture Narcissus (plant), N:25 with picture lvy, 1:478 Pogrom (persecution) Poison oak, P:621 Genocide, G:85 Poison sumach lews (The growth of anti-Semitism), Sumach, So:403 1:115 **Poisoning** Zionism (Movement to Palestine), First aid (Treatment for poisoning), Z:499 P:143 Pohnpel (island), P:618 Food poisoning, F:305 Caroline Islands, C:206 Poisonous plant, P:621 ^{folklothermic} animal See also list of Related Articles See Cold-blooded animal Camping, C:68 ^{Polncaré}, (Jules)-Henri (French mathe-Poitevin, Alphonse Louis (French inmatician), P:618 with portrait ventor Printing (Developments in platemak-Mathematics (In the 1800's), M:260 Poincaré, Raymond [French political ing), P:787 leaderl, P:618 Poitier, Sidney [American film actor], Poinciana (tree), P:619 with picture P1621 Poinsettia iplanti, P:619 Film industry (Best performance by an Point and Line to Plane book by Kanactor), F:96 Poitiers, Battle of, P:622 with picture Kandinsky, Wassily, K:184 Edward (Black Prince), E:93 Point and shoot camera England (The Hundred Years' War), Camera, C:57 with picture E:276 Point at Infinity [mathematics] Poker [card game], P:622 Infinity, 1:229 Pokeweed, P:622 with picture Point Hicks Pol Pot (Cambodian political leader) Victoria (History), V:364 Cambodia (History), C:44, C:46 Point of No Return (book by Mar-Poland, P:623 with pictures and maps See also list of Related Articles Marquand, John Phillips, M:216 Aviation (Aircraft nationality marks), Point Puer |Australia A:881 Port Arthur, P:692 Belarus (Lithuanian, Polish, and Rus-Point rationing sian rule), B:210 Rationing, R:144 Christmas, C:490 Point source pollution Communism (In Eastern Europe), Environmental pollution, £300 CE:244 Pointe (ballet) Europe (table), E:359 Ballet (Ballet classes), B:50 with pic-Flag picture on, F:209

lews (Eastern European religious movements), I:115 Succession wars (War of the Polish Succession), So:378 Ukraine (Lithuanian and Polish rule). 11:12 Walesa, Lech. W:22 Warsaw, W:41 with picture World War II (The invasion of Poland), W:382 Polar anticyclone Calms, Regions of, C:43 Polar bear, P:635 with pictures Animal picture on, A:392 Bear, B:171 with pictures Polar cap Mars. M:222 Polar easterlies Air (Air movement), A:185 Wind (General circulation), W:267 Polar exploration Antarctica (Exploration), A:441 Arctic (Arctic exploration), A:544 Exploration (Polar exploration; table), E:427 Polar icebreaker ishipi Icebreaker, I:19 Polar night jet let stream, J:107 Polar nucleus Maize (How the plant reproduces), Plant (Sexual reproduction), P:556 Pollen (Fertilization), P:656 Seed (Seed development in angiosperms), S:236 Polar orbit [astronomy] Space exploration (Kinds of earth orbit), So:131 with diagram Polaris (astronomy) North Star, N:263 with diagram Polarization Light, L:262 Nervous system (The beginning of an impulse), N:84 with diagram Polarized light, P:636 Waves (Transverse waves), W:104 Polarized light, P:636 with diagrams and pictures Polarizing microscope Police laboratory (Analysing the evidence). P:644 Polaroid Land camera Land, Edwin Herbert, L:43 Belgium (The Coastal and Interior Lowlands), B:219 Netherlands, N:88, N:92 with map Pole [geography], P:637 Antarctica, A:436 with map Arctic, A:541 Earth (The earth's shape and size), E:19 Latitude, L:100 North Pole, N:261 South Pole, So:118 Pole Star

Grinding and polishing, G:379

Polistes

Wasp (Nests), W:64 Angiosperm, A:366 North Star. N:263 Cactus (Life cycle of the cactus). Ca Pole vault, P:637 with picture Politburo [Communist Party], P:647 Fruit (Developing new varieties of Athletics (Jumping events), A:711 China (The Communist Party), C:437 Khrushchev, Nikita Sergeyevich (Rise fruit), F:474 Pole, Reginald (English religious leader], P:637 as a Communist), K:242 Hay fever, H:89 Hemp, H:147 with picture Political behaviour Polecat (animal), P:638 Maize (How the plant reproduces). Political science, P:653 Ferret, F:57 Political conservatism Police, P:639 with pictures Seed (How seeds develop), \$:236 Conservatism, Ci:305 See also list of Related Articles Interpol. I:298 Political economy Pollen tube Flower (Fertilization), F:264 Peel, Sir Robert, P:242 See Economics Maize (How the plant reproduces), Police laboratory, P:644 with pictures Political freedom Radar (in controlling traffic speed and Freedom, F:433 flow), R:57 with picture Political geography Plant (Sexual reproduction), P.556 with Riot (Riot police), R:286 with picture Geography (Divisions of geography), diagrams Seed (Seed development in anglos-Scotland Yard, S:173 G:89 Secret police, S:232 Political map perms), S:236 Map (General reference map), M:183 Police burgh Pollera [clothing] Burgh, B:650 Political parties, P:647 Panama (Clothing), P:117 with picture Police laboratory, P:644 See also list of Related Articles Pollination Fingerprinting, F:111 Political prisoners Bee, B:184 Footprinting, F:336 Convicts in Australia (Background of Cactus (Life cycle of the cactus), C:10 Police (investigating crime), P:640 the convicts), Ci:321 Flower (Cross-pollination), F:263 Voiceprint, V:415 Political reform Grass (The grass plant), G:301 Police Motu llanguagel Progressive movement, P:796 insect picture on, I:246 Political rights Papua New Guinea (Languages), P:147 Orchid (How orchids reproduce), Police state, P:645 See Citizenship O:489 Hitler, Adolf (The New Order), H:230 Political science, P:652 Plant (Sexual reproduction), P:556 Political sociology Pollen, P:655 Insurance, I:271 Sociology (table), So:11 Seed (Seed development in anglos-Policyholder Political theory perms), S:236 Insurance, I:271 Geopolitics, G:99 **Pollinosis** Pollo Political science, P:653 Hay fever, H:89 See Poliomyelitis Political Tinker, The [play by Holberg] Pollock (fish), P:656 Poliomyelitis [disease], P:646 with pic-Holberg, Ludvig, H:244 Pollock, Jackson American artisti, Politician P:657 See also list of Related Articles Government, G:267 Abstract art, A:16 Brain (Infectious diseases), B:517 Painting (Abstract expressionism), PM Parliament, P:190 with pictures Disease (table), D:190 United States picture on, U:203 Political parties, P:647 Immunization (Active immunization), Public opinion poll (Who uses polis?), Polister Public opinion poll (Conducting a P:839 Iron lung, 1:403 with picture Politics of God [book by Quevedo] poll), P:840 Kenny, Elizabeth, K:218 Quevedo, Francisco de, Q:27 **Pollution** Nervous system (Disorders of the ner-Politzer, H. David [American physicist] See Environmental pollution vous system), N:85 Pollux [Greek mythology] Gluon, G:216 **Polisario Front** Castor and Pollux, C:241 Poliziano, Angelo Algeria (Recent developments), A:266 Italian literature (The 1400's), 1:445 Polly Woodside [ship], P:657 Hassan II, H:74 Polk, James Knox (U.S. president), Polo sport, P:657 with pictures Morocco (Dispute over Western Sa-P=654 Polo, Maffeo Iltalian merchant hara), M:616; (Morocco today) Polka Exploration (East-West contact MIGHTE Dancing (Folk dancing), D:24; (The rise resumes), E:419 Polo, Marco (Early life), P:659 with pic Western Sahara, W:190 of romanticism) D:27 Polish (wax), P:647 Poll of public opinion ture and map Polish Corridor [Poland], P:647 with Polo, Marco (Italian explorer), P.656 Public opinion poll, P:839 Poli tax, P:654 with map Prussia (Decline of Prussia), P:823 **Exploration (East-West contact** Voting (Restrictions on voting), V:427 resumes), E:419; (table) E:419; ptc Polish Succession, War of the [1733-Pollack See Pollock ture on E:417 Geography (Era of exploration), Geography Louis XV, L:399 Pollaiuolo, Antonio Del Italian artisti, Succession wars (The War of the Pol-2:653 Glasses, G:202 ish Succession), So:378 Engraving (History), E:297 Ice cream (History), I:8 Polish Uplands Japan (Foreign relations), 3:56 Renaissance picture on, R:219 Money (The development of paper Poland, P:629 Sculpture (Early Renaissance), S:211 Pollan money), M:549 Mongol Empire (European contacts), Diamond (How diamonds are cut to Whitefish, W:237 make jewels), D:154 with picture Pollen basket Trade (The expansion of trade), 7:326 M:558 Gem. G:71 Bee (Legs), B:185

Pollen, P:655 with picture

See also list of Related Articles

See also Kublai Khan

Polo, Nicolò (Italian explorer)

Exploration (East-West contact
resumes), E:419 Polo, Marco (Early life), P:658
edo harona (clothing)
Philippines (Clothing), P:375 Polo pony
Polo (The horses), P:657
Polocrosse (sport), P:659 Polonaise (dance), P:659
Polonium (chemical element), P:659 Curie, Marie Skiodowska, Ci:501
"Polovisian Dances" (music by Boro-
dini Borodin, Alexander, B:471
Poltava, Battle of
Army (table: Famous land battles), A:593
Charles XII, C:352
Sweden (The age of expansion), So:474
Poitergelst (superstition)
Chost, G:150 Polyamide fibre
Fibre (Manufactured fibres), F:67
Polyandry Family (Traditional families in other
cultures), F:23
Marriage (Marriage in other cultures), M:219
Nepal (People), N:75
Polygamy, P:660 Polyanthus, P:660
Polychaete worm
Worm (Segmented worms), W:411 Polychlorinated biphenyi (PCB)
(chemical), P:660
Water pollution (Effects), W:89 Polycythemia
Bloodletting, B:403
Polyester, P:660 8alloon (Superpressure balloons), B:6
Fibre (Manufactured fibres), F:67
Plastics (table), P:579; (Growth of the plastics industry) P:582
Rope (Synthetic-fibre rope), R:394
Rugs and carpets (Materials used in rugs and carpets), R:449
lextile (Manufactured fibres), T:170;
(The age of modern textiles) T:176 Polyethylene, P:660
Dalloon (Zero-pressure helloon) Refit
Petrochemicals (How petrochemicals are made), P:329
riastics (table), P:579; (Growth of the
Polymer Proces
rolyethylene terephthology (PET)
Polygamy, P-660
"" I Williams and the family 4 at 196
Arabs (Family life), A:491 Family (Traditional families in other
Marriage (Marriage in other cultures), M:219
Mormone Macron
Xhosa V. tan
Polygenic trait

Heredity (Dominant and recessive genes), H:167
genes), H:167
Polygon (geometry), P:660 with diagram Octagon, 0:406 with diagram
Pyramid, P:872 with diagram
Quadrilateral, Q:4
Polygraph See Lie detector
Lie detector, P:661
Polygyny
Africa (Marriage and the family), A:126 Family (Traditional families in other
cultures), F:23
Marriage (Marriage in other cultures),
M:219 Nepal (People), N:75
Polygamy, P:661
Zulu, Z:509
Polyhedron (geometry), P:661 with dia- gram
Archimedean solid, A:510
Hexahedron, H:188
Octahedron, 0:406 with diagram Polymer, P:661
Adhesion, A:47
Cellulose (Biological importance),
Monomer, M:568
Petroleum (Combining processes),
P350 Polyester (Chainlike molecule), P:660
Polyethylene, P:661
Polymerization, P:661
Polystyrene, P:662 Resin, Synthetic, R:239
Rubber (The chemistry of rubber),
R5438
Viscosity, V:408 Polymerization, P:661
Nylon (How nylon is made), N:369
Petroleum (Combining processes),
P350 Plastics (Making synthetic resins),
P.580
Polymer, P:661
Resin, Synthetic, R:239 Vinyl (Characteristics), V:396
Polymorphism, P:661
Polymesia
Mythology (Pacific Islands divinities), M:761 with picture
Pacific Islands, P:3; (Climate) P:8;
(table) P:9 with map; (The first set-
tlers) P:13 Western Samoa (People), W:191; pic-
ture on W:192
Polynesians [people] Cook Islands, Ci:332 with maps
Hawaii (History), H:81 with picture
Now Zealand, History of, N:164
Pacific Islands (People), P:4 with pic-
ture Races, Human (The geographical-race
theory), R:44
Polynomial imathematicsi Algebra (Other definitions), A:256
Bohm (disorder)
Hay fever (Symptoms), Heby
Polyp [sea animal]

Cnidarian, Ci:118 Coral (How coral is formed), Ci:348 Great Barrier Reef (Marine life), G:313 ram Jeilyfish, J:82 Sea fan, S:221 Polypedon Soil, So:20 Polypeptide Heredity (Genes and proteins), H:170 Life (Proteins), L:249 Protein (The structure of proteins), F-813 Polyphase AC generator Electric generator (Alternating-current generators), E:148 Polyphase alloy Alloy (Characteristics of alloys), A:278 Polyphemus [Greek mythology] Cyclops, Ci:511 Poseidon, P:709 Ulysses (Return to Ithaca), U:19 Polyphony [music] Classical music (The Middle Ages), CL59 Counterpoint, Cl:392 Palestrina, Giovanni, P:105 Song, **So:40** Polypropylene Petrochemicals (How petrochemicals are made), P:329 Plastics (table), P:579 Rope (Synthetic-fibre rope), R:394 Polysaccharide (chemistry) Carbohydrate (Complex carbohydrates), C:187 with diagram Life (Carbohydrates), L:248 Saccharides, S:6 Polystyrene, P:662 Polysulphide rubber Rubber, R:437 Polytechnics [education] United Kingdom, Educational systems of the, U:97 United Kingdom (Education), U:52 Polythelsm, P:662 Egypt, Ancient (Religion), E:122 Hinduism (Divinities), H:209 Religion (Bellef in a deity), R:197 Theism, T:211 Polyunsaturated fat Fat (Fats and disease), F:33 Nutrition (Fats), N:363 Polyunsaturated fatty acid Margarine, M:203 Polyurethane rubber Rubber, R:437 Polyvinyl chloride Petrochemicals (How petrochemicals are made), P:329 Plastics (table), P:579; (Growth of the plastics Industry) P:582 Vinyl (Characteristics), V:396 Pölzi, Klara Hitler, Adolf, H:228 Pomace fly

Fruit fly, F:476
Pomade

P:280

Perfume (How perfumes are made),

Pond, P:667 with pictures

Plant picture on, P:552

Lake, L:17

Pomare, Sir Maui [Maori leader], P:662 Pond lilv Poor Clares, Order of See Water lily Convent. Ci:318 Fruit (Simple fruits), F:476; pictures on Pond-skater [insect], P:668 Franciscans, F:422 Poor Fellow My Country Inovel by **Pond smelt** Pomegranate, P:663 with picture Smelt. S:496 Herbertl Australia, Literature of (Modern nov-Pondicherry [India]. P:668 Pomerania [former Prussian province], India, History of (The new republic), els). A:832 Poor Folk [novel by Dostoevsky] Pomeranian [dog], P:663 Dog picture on, D:234 Pondweed [plant], P:668 Dostoevsky, Fyodor, D:271 Pomerelia [Poland] Ponomarev, Boris Nikolaevich Rus-Poor Henry [poem by Hartmann Von Polish Corridor, P:647 sian political leader], P:668 Aue **Pommel** German literature (Epic poetry), G:107 Knife, K:297 Brain (The brain stem), B:512; dia-Hartmann Von Aue, H:71 Saddle, S:7 with picture grams on B:514 Poor Law Amendment Act [1834] **Pomology** Ponta Delgada [Portuguese Azores], Poor laws, P:671 Fruit (Growing fruit), F:473 P:668 Poor Law Commission Pomona (Roman goddess) Azores, A:898 Poor laws, P:671 Halloween (The Romans), H:24 Ponte Vecchio Poor laws, P:671 Pomp and Circumstance imusic by Florence (The city), F:231 with picture Poor Richard Improved book by Elgari Ponte, Lorenzo da (Italian librettist) Franklin! Elgar, Sir Edward William, E:210 Opera (Don Giovanni), 0:469; (Mar-Poor Richard's Almanac, P:671 Pompadour, Marquise de French riage of Figaro, The) 0:471 Poor Richard work by Daugherty public figurel, P:663 with portrait Pontiac [American Indian chief], P:668 Daugherty, James Henry, D:43 Louis XV, L:399 with picture Poor Richard's Almanac book by Pompano [fish], P:664 with picture American Revolution (British policy Franklin], P:671 with picture Pompeti [ancient city], P:664 changes), A:323 Almanac, A:280 Architecture (Neoclassical architec-Indian wars (Pontiac's War), 1:174 American literature (Philadelphia), ture), A:529; picture on A:522 Pontiac's War A-311 Atrium picture on, A:731 Indian wars, 1:174 Colonial life in America (Literature), Clothing (Ancient times), Cl:98 Pontifex (religious leader), P:669 Ci:183 Herculaneum, H:163 Franklin, Benjamin (Printer and pub-Vesuvius (Early eruptions), V:352 See Pope lisher), F:425 Pompey the Great [Roman general], Pontifical Swiss Guard Proverb, P:820 P:666 Swiss Guard, So:490 **Poorhouse** Caesar, Julius (Alitance with Pompey), Pontine Marshes [Italy], P:669 Poor laws, P:671 C:13 **Pontius Pllate** Poorwill (bird) Cato, Marcus Porcius, the Younger, See Pilate, Pontius Whippoorwill, W:229 with picture C:268 Pontoon bridge, P:669 Pop art. P:672 Crassus, Marcus Licinius, Ci:418 Oldenburg, Claes, O:428 with picture Pontoppidan, Henrik Mithridates VI, M:519 Nobel Prizes (table: Nobel Prizes for lit-Painting, P:87 with picture Rome, Ancient (Breakdown of the re-South Africa, Art of (Overseas influerature 1917), N:232 public), R:380 Pontus [ancient region], P:669 ences), So:71 **Pompidou Centre** Mithridates VI, M:519 Warhol, Andy, W:39 with picture Paris (Museums and art galleries), **Pontus Euxinus** Pop P:181 with picture Black Sea. B:376 Soft drink, So:17 Pompidou, Georges Jean Raymond Pontypridd [Wales] Pop culture [French political leader], P:666 Glamorgan (Places to visit), G:180 Culture, Cl:490 President (Dual presidency), P:764 Pony Popcorn, P:672 Ponape Horse, H:290 with pictures Maize, M:73 See Pohnpei Shetland pony, S:357 with picture Pope (title), P:673 with pictures Ponce de León, Ernesto Zedillo Mexi-Pony club branches, P:670 See also list of Related Articles Arbitration (International arbitration), can president Pony express [U.S. history], P:670 with Mexico (Recent developments), M:422 picture Middle Ages (Troubles in the church), Ponce de León, Juan (Spanish ex-Pony Tracks [book by Remington] plorerl, P:666 with picture Remington, Frederic, R:212 M:451 Exploration (table), E:421; (Spain's con-Poodle, P:671 with picture Peter, Saint, P:325 quests in the New World) E:422 Dog picture on, D:235 Ring, R:278 with picture Puerto Rico (History), P:848 Roman Catholic Church, R:335; Pool [gambling] Turks and Caicos Islands (History), (Church government) R:337 Horse racing (Betting), H:308 T:469 Pool [game] Swiss Guard, So:490 Poncho Billiards and snooker, B:295 with pic-Vatican City, V:316 Pope, Alexander (English poet), P:680 Argentina (Clothing), A:555 tures Bolivia (Clothing), B:427 Essay (Formal essays), E:330 Pool [geology] Poetry (Neoclassical poetry), P:616 Inca picture on, I:50 Well (Oil and natural-gas wells), W:144 Latin America (Clothing), L:81 **Pool Malebo Region** Popish Plot, P:681 Mexico (Clothina), M:406 Congo (Land), Ci:280

Poole (England), P:671

England (Recreation), E:267

Pools coupon

Jeffreys, George, J:81

Poplar, P:681 with picture

See also Balm of Gilead; Cottonwood

Oates, Titus, 0:376

Port [shipping], P:692

Humberside, H:365

Papocatépeti (Mexico), P:681 Ixtacihuati, 1:478 Mountain (table), M:668 with diagram Poppet valve Petrol engine (Valves), P:333 Popping crease Cricket, Cl:425 Poppy, P:682 with picture Asia (Plants), A:651 with map Celandine, C:290 Flower picture on, F:247 Oplum, 0:476 Remembrance Day, R:211 Poppy Day See Remembrance Day Popular astronomy [book by Flamma-Flammarion, Camille, F:220 Popular dancing Dancing (Kinds of dancing), D:24 Popular music, P:682 Music, M:734 Rock music (Rock goes pop), R:313 Popular sovereignty [U.S. history], Population, P:684 See also list of Related Articles Animal (Human population growth), A:413 Balance of nature, B:34 B:35 Conservation (To meet demands for resources). Ci:293 Ecology (Populations), E:56 Elephant (Elephant families), E:205 Environmental pollution (Effects of population growth), E:308 Heredity (Heredity and natural selection), H:168 life (The biological environment), L:246 Natural resources (Conservation and development), N:47 Races, Human (The population approach), R:46 Sociology (Population studies), So:11 Population [statistics] Public opinion poll (Defining the goals), P:840 Statistics (Collecting the data), So:302 Population explosion Population, P:686 Population genetics Genetics, G:82 Population geography Geography (Divisions of geography), G:BB Population inversion [physics] laser (Producing laser light), L:72 Population map Map (Thematic maps), M:184 Population Registration Act |South Africa]

South Africa, History of (Apartheid),

Populism [political movement], P:687

gressive Era), U:254

^{Poquelin}, jean Baptiste

United States, History of the (The Pro-

Port Idrinki

W:275

Wine (Clarifying and aging the wine),

So:83

See Molière

Porcelain, P:687 with pictures See also list of Related Articles Antique (Antique ceramics), A:463 Böttger, Johann Friedrich, B:484 China (Sculpture and pottery), C:447 with picture Doll (China dolls), D:246 Germany picture on. G:122 Invention (China), I:315 Ming dynasty, M:489 with picture Pottery, P:722 Porcelain clay See Kaolin Porcelain enamel Ceramics (Glass products), C:326 Porcupine (animal), P:690 with picture Animal (Fighting), A:404; picture on A:402 Porcupinefish, P:691 with picture Fish picture on, F:152 Pore [anatomy], P:691 Acne, A:24 Perspiration, P:302 Pimple, P:502 Prickly heat, P:775 Pore [astronomy] Sunspot, So:427 Pore funal Fungi (Common kinds of fungi), F:486 Porgy and Bess (music by Gershwin) Gershwin, George, G:142 Opera, 0:472 Porgy [fish]. P:691 with picture Portfera Animal (A classification of the animal kingdom), A:414 Sponge (Kinds of sponges), So:236 Pork [food], P:691 Meat (Kinds of meat), M:297 Pia (Food), P:493 Trichina, T:399 **Porkfish** Fish picture on, F:163 Pornography Censorship (Moral censorship), C:314 Obscenity and pornography, 0:380 Porosity, P:691 Gas (Exploring for gas), G:51 Powder metallurgy, P:730 See also Diffusion Porous-pointed pen Pen (Soft-tip pen), P:251 Porphyry [Greek philosopher], P:692 Neoplatonism, N:74 Porpoise, P:692 with pictures Animal (Fins, tails, and flippers), A:398 Whale, W:207 Porsche, Ferdinand Volkswagen, V:422 Port Arthur [Australia], P:692 with pictire Convicts In Australia (Punishment), CI:323 Tasmania (History), T:62 Port-au-Prince [Haiti], P:693 Haiti, H:15

Port of entry. P:694 Queensland (Transport and communications). 0:24 Ship (Modernization of ports), S:379 Port Elizabeth (South Africa), P:693 with picture Port Elizabeth ISt. Vincent and the Grenadinesl West Indies picture on. W:165 Port lackson (Australia) Cook, lames (The survey of the east coast). Cl:329 Phillip, Arthur, P:416 Sydney Harbour, So:514 Port Kembla [Australia], P:693 Port Louis [Mauritius], P:694 Port Macquarle (Australia), P:694 Oxley, John, 0:537 with map Port Moresby [Papua New Guineal, New Guinea, N:115 with picture Papua New Guinea, P:140 Port of entry, P:694 Port-of-Spain [Trinidad and Tobago], 15694 Trinidad and Tobago, T:404; picture on T:408 Port Phillip Bay [Australia], P:694 with Port Said, N:60, P:695 with picture Port Sudan [Sudan], P:695 Port Sunlight (England) Merseyside (Places to visit), M:368 Port Talbot | Wales|, P:695 Portable electric router Woodworking (Cutting), W:307 Portage, P:695 Canoeing (Portaging a canoe), C:130 Portal, Lord (British air commander), P:695 **Portcullis** Castle (table), C:235; (Castle defences) C:235 **Porteños** Argentina (City life), A:555 Buenos Aires (The people), B:620 Porter (drink) See Beer Porter, Cole [American songwriter], P:696 with portrait Porter, David (American military leader) Porter, P:695 Porter, David Dixon (American military leader] Porter, P:696 Porter, Fitz-John [American soldier], Porter, Hal [Australian writer], P:696 Australia, Literature of (Modern short stories), A:832 Porter, Katherine Anne American writer], P:696 with portrait Porter, William Sydney See Henry, O. Porth [Wales] Glamorgan (Places to visit), G:180

Porthcawl [Wales]

Portholme Meadow Glamorgan (Places to visit), G:180 **Portholme Meadow** Cambridgeshire (The land), C:50 Portinari, Beatrice [Italian public fig-Dante Alighieri (His life), D:31 Divine Comedy, D:205 Portland (Australia), P:697 Portland (England) See Weymouth and Portland Portland (U.S.A.), P:697 Oregon, 0:492 Portland cement Cement and concrete, C:311: (Raw materials) C:313 **Portland Vase** Glass picture on, G:197 Portland, Duke of (British political leader), P:697 Portmeirion [Wales] Gwynedd (Places to visit), G:439 Portnoy's Complaint (book by Roth) Roth, Philip, R:407 Porto [Portugal], P:697 Portugal (Population and ancestry). Pôrto Alegre [Brazil], P:697 Porto-Novo [Benin], P:697 Porto Rico See Puerto Rico Portrait Drawings [book by Scott] Scott, Sir Peter, S:174 American literature (Mark Twain and Henry James), A:316 Portrait of a Man with Red Hair (book by Walpolel

Portrait of a Lady, The book by James

Walpole, Sir Hugh Seymour, W:28

Portrait of Charles I Hunting | painting by Van Dyckl Painting (Other baroque masters), P:62

with picture Van Dyck, Sir Anthony, V:310

Portrait of Giovanni Arnolfini and His

Wife (painting by Van Eyck) Van Eyck, Jan, V:311

Portrait of Jan Six [painting by Rem-

Rembrandt (The last years: 1640-1669), R:211 Portrait of Lucius Verus

Sculpture (Roman sculpture), S:208 with picture Portrait of Madame Récamier [paint-

ing by David David, Jacques Louis picture on, D:45

Portrait of Pope Innocent X [painting by Baconl Bacon, Francis (1909-1993), B:19

Painting (Religious subjects), P:32 with picture; (Postwar European painting) P:87

Portrait of the Artist as a Young Dog (work by Thomas)

Thomas, Dylan, T:222

Portrait of the Artist as a Young Man, A (book by Joyce)

Irish literature (Modern Irish literature), 1:383

loyce, james, J:152 Portrait sculpture

Sculpture (Japan), S:201 with picture; (Mature Indian sculpture) S:205 with picture

Sculpture (Roman sculpture), S:208 with picture

Portrait sculpture

Epstein, Sir Jacob, E:308

Portsmouth (England), P:697

Hampshire (Transport and communication), H:34

Portsmouth, Treaty of

Japan (Imperialism), 1:58 Russo-Japanese War, R:503

Portugal, P:698 with pictures and maps

See also list of Related Articles with the Portugal article

Aviation (Aircraft nationality marks),

Brazil (Portuguese rule), B:543

Colonialism (Early European colonialism), Ci:186

Europe (table), E:359

Flag picture on, F:209

Goa (History), G:220 with picture India, History of (The arrival of Euro-

peans), I:111 with picture

Indonesia (The coming of the Portuguese), I:196

Jakarta (History), J:15

Lisbon, L:306

Rio de Janelro (History), R:284 South Africa, History of (White settlement in South Africa), So:77

United States, History of the (Exploration and early settlement), U:237

Portuguese discovery of Australia, F:707

Portuguese East Africa

See Mozambique

Portuguese Guinea

See Guinea-Bissau

Portuguese language, P:708 Portugal (Language), P:701

Spanish language (Development), So:192

Portuguese man-of-war isea animall, P:708 with picture

Portuguese water dog, P:708 with picture

Portuguese West Africa

See Angola

Portulaca [plant], P:709 with picture Poseidon (Greek mythology), P:709

Andromeda (Greek mythology), A:363

Athena, A:704

Isthmian games, 1:443

See also Neptune

Mythology (Greek mythology), M:756; (table) M:758

Sculpture (As a record of history), S:186 with picture

Triton, T:411

Ulysses (Return to Ithaca), U:19

Positive acceleration

Velocity (Acceleration), V:325

Positive charge

Electricity (Kinds of electricity), E:166

Vacuum tube (How a vacuum tube works), V:297

Positive displacement pump Pump. P:854

Positive eugenics

Eugenics, E:352

Positive ion

Atom (Electric charge), A:726

Positive method

Positivism (Comte's positivism), P:703 Positive number [mathematics]

Algebra (Positive and negative numbers), A:254

Positive-pressure ventilator

Ventilator, V:338

Positive reinforcements

Behaviour (Behaviourism), B:202

Positivism, P:709

Comte, Auguste, Cl:271

Metaphysics (Opinions about metaphysics), M:379

Positron

Anderson, Carl David, A:353

Antimatter, A:462

Beta particle, B:262

Dirac, Paul Adrien Maurice, D:186

Gamma rays, G:26

Joliot-Curie, Irène, J:137

Positron emission tomography, P:709

Quantum electrodynamics, Q:6

Radioactivity (Beta particles), R:87

Transmutation of elements, T:345 Positron emission tomography (PET).

P:709 with picture Possessed, The inovel by Dostoevskyl

Dostoevsky, Fyodor, D:271 Russian literature (The 1860's and

1870's), R:499

Possession

Exorcism, E:416

Possession Island (Australia), P:710

Cook, James, Cl:330

Possessive case

Case (Nouns), C:225; (Pronouns) C:225

Declension, D:72

Grammar (Inflection), G:287

Possibility

Metaphysics (Possibility and necessity), M:379

Possum, P:710 with picture

See also Opossum

Marsupial (Kinds of marsupials), M1228 with picture

Post-disaster counselling Counselling, Ci:391

Post figure

Sculpture (Pacific Islands sculpture), S:204 with picture

Post-menopausal osteoporosis Osteoporosis, 0:514

Post-modernism

Architecture (Architecture today), A:538 with picture

Johnson, Philip Cortelyou, J:133 McLuhan, Marshall, M:290

Post mortem

See Autopsy

Post office, P:711 See also list of Related Articles

ing energy) E:246

Potentilla [plant], P:721

Hill, Sir Rowland, H:203 Post-polio syndrome Poliomyelitis (Kinds of poliomyelitis), P:646 Port, Wiley [American aviator], P:711 with portrait Aeroplane (Fliers of the golden age), A:81 Automatic pilot, A:872 Portage stamp Post office (Development of the postal system), P:715 with picture Stamp collecting, So:270 Postal order, P:716 Postal Union, Universal (UPU), P:716 **Postcode** Post office (Sorting), P:712 Poster, P:716 with picture Postimpressionism France (impressionism), F:403 Impressionism, 1:47 Painting, P:77 Postman Always Rings Twice, The (play by Mamet) Mamet, David, M:124 Postman Roulin, The [painting by Van Gogh) Painting picture on, P:44 Van Gogh, Vincent, V:311 Portnatal mortality infant mortality, 1:228 Postrider Colonial life in America (Communication). Cl:182 Postsynaptic potential Nervous system (Transmission across synapses), N:84 Postulate Axlom, A:893 Geometry (Axiomatic organization), G:95 Posture, P:717 Postvertebral muscle (anatomy) Back, B:17 Pot |drug| Marijuana, M:206 Pot still [liquor] Distilling, D:204 Potash, P:717 with picture Detergent and Soap (Early soap), D:139 Israel (Mining), 1:437 with picture Potassium, P:717 P:718 Potassium-argon dating Archaeology (Dating), A:503 Potassium [element], P:717 with picture Fertilizer (Mineral fertilizers), F:59 Flame test, F:218 Glauconite, G:204 Nutrition (Minerals), N:364 ^{Potassi}um bitartrate Cream of tartar, Ci:419 ^{Potassi}um bromide Bromide, B:585 Potassium, P:718 Potassium carbonate Potash, P:717 Potassium chloride

Fertilizer (Raw materials), F:60

Potash, P:717 Potassium cyanide Cvanide. Ci:508 Prussic acid. P:824 Potassium feldspar Mineral picture on, M:485 Potassium hydrogen tartrate Cream of tartar, Ck419 Potassium hydroxide Alkali, A:269 Base, B:123 Battery (Alkaline cells), B:155 Caustic, C:281 Potassium iodide lodine (Uses of lodine), E324 with pic-Potassium, P:718 Potassium nitrate Nitrate, N:221 Saltpetre, S:58 Potassium oxide equivalent Potash, P:717 Potassium permanganate Deodorizer, D:122 Manganese (Uses), M:152 Potato, P:718 with pictures See also list of Related Articles Ireland, History of (The Great Famine), 1:375; picture on 1:376 Nightshade, N:217 Plant (Vegetative propagation), P:559 Poisonous plant (table). P:621 Solanum, So:22 Potato bug See Colorado potato beetle Potato combine Potato (Harvesting), P:720 with picture Potato Eaters, The lpainting by Van Goahl Van Gogh, Vincent, V:311 Potato famine Ireland, History of (The Great Famine), 1:374 picture on 1:376 Mildew, M:463 Potato (History), P:720 Potato fiea beetle Beetle picture on, B:199 Potato late blight Rot, R:405 Potato psyllid Potato (Diseases and Insect pests), P:720 Potato starch Starch (Industrial uses), So:293 Potato tuber worm Potato (Diseases and insect pests), P:720 Potawatomi [tribe] Indian, American (Indians of the northeast), 1:152 Potemkin [film by Eisenstein] Eisenstein, Sergel Mikhallovich, E:135 Potential difference

Electric arc, E:140

Voltmeter, V:424

Energy, E:245 with picture; [Measur-

Potential energy

Farad, F:26

Volt, V:423

Potentiometer (instrument), P:721 Kangaroo (Rat kangaroo), K:186 Potsdam [Germany], P:721 Potsdam Conference, P:721 Germany (Occupied Germany), G:137 Truman, Harry S. (First administration), World War II (Peace with Germany), W:407 **Potsherd** Archaeology (Recording and preserving evidence), A:502 Potter, Beatrix (English author), P:721 with picture Literature for children, L:324 Potter, Dennis (British playwright), P:721 Potter, Martha Beatrice See Webb, Sidney and Beatrice Potter, Stephen (British author), P:722 Potteries [England], P:722 Staffordshire, So:260 Potter's field, P:722 Potter's wheel Pottery (The wheel method), P:724 with picture Pottery, P:722 with pictures See also list of Related Articles Archaeology (The seriation of pottery), A:503 China, C:447 Handicraft picture on, H:49 Indian, American, 1:142; picture on 1:167 Islamic art, 1:421 with picture Majolica, M:76 with picture Prehistoric people (The end of prehistoric times), P:760 Sculpture (Prehistoric sculpture), S:194 Wedgwood, Josiah, W:130 Wedgwood ware, W:130 with picture Pottier, Eugène [French author] Internationale, The, I:298 Potto (animal), P:725 with picture Pouched mammat Mammal, M:133 with pictures Marsupial, M:227 with pictures **Poulaine** Clothing (The Renaissance), Ci:102 Poulenc, Francis (French composer), P:726 Poulsen, Valdemar (Danish engineer) Communication (The development of modern communication), Ch234 Tape recorder (History), T:39 **Poultice** Camomile, C:61 Poultry, P:726 See also list of Related Articles Food (Food from animals), F:295 **Poultry feed** Poultry (Raising poultry), P:726

Pound imoney), P:727 with picture

Money picture on, M:547

Pound (unit of measure), P:728

Apothecaries' weight, A:473

Pound, Ezra Loomis [American poet], P:728 with portrait

American literature (Modernist poetry), A:317

Eliot, T. S. (His life), E:211

Pound, R. V. [American physicist] Relativity (General relativity theory), R:193

Poussin, Nicolas [French painter], P:728 Classicism (The qualities of classicism), Ci:65

Mythology picture on, M:764
Painting, P:66 with picture

Poverty, P:728

City (The people), Ci:33 Crime (Social conditions and crime), Ci:438 Chetto, G:149

Homelessness, H:253 Housing, H:328

Juvenile delinquency (Neighbourhood conditions), J:176

Social welfare, So:6

Poverty [sculpture by Talim]

Sculpture (Figurative form), S:216

Poverty: A Study of Town Life (book by Rowntree) Rowntree, Benjamin Seebohm, R:415

Poverty and Progress (book by Rowntree)

Rowntree, Benjamin Seebohm, R:415
Powder horn (ammunition), P:730

Powder Keg of Europe Balkans, B:43

Powder metallurgy, P:730

Aluminium (Other shaping processes), A:294

Powdery mildew [fungus]
Grape (Diseases and pests), G:298
Mildew, M:463

Powell, Anthony [English writer], P:731 Powell, Bud [American jazz musician]

jazz (Bebop), **J:76**Powell, Cecil Frank

Nobel Prizes (table: Nobel Prizes for physics—1950), N:226

Powell, James [American nuclear engineer]

Magnetic levitation train, M:52

Power [mathematics], P:731 Googel, G:254

Logarithms (Raising a number to a power), L:361

Numeration systems (The decimal system), N:344

Power (physics), P:731 with diagrams Horsepower, H:310 Water power, W:91 Work, W:315

Power isocial sciencel, P:731
See also Government

Power blackout

Electric power (Providing reliable service), E:160 Power brake

Brake (Other kinds of brakes), B:521

Car (The brake system), C:158 with diagram

Power elite

Power (Systems of power), P:732

Power failure

ower milite Electric power (Providing reliable ser-

vice), E:160

Power House Museum [Australia], P:732

Power lifting

See Weight lifting

Power loom

Cartwright, Edmund, C:221
Textile (The Industrial Revolution),
T:175

Weaving (Kinds of loom), W:125 Wool picture on, W:313

Power of attorney (law), P:732 Power of Darkness, The [play by Tolstoy]

Tolstoy, Leo (Later works), T:290
Power pack

Railway, Model (Locomotives), R:114

Power plant, P:732

See also list of Related Articles

Power pool

Electric power (Providing reliable service), E:161

Power reactor

See Nuclear energy; Nuclear reactor

Power shovel Gold, G:232

Power station

Coal (Coal as a fuel), Ch121 with picture

Power plant, P:732

Power strake

Diesel engine diagram on, D:169 Petrol engine, diagram on, P:333

Power structure

Power (Systems of power), P:732

Power supply

Agriculture (New sources of power),
A:174

Victoria (Water, irrigation, mining, and power), V:363 with picture

Power take-off (PTO)

Tractor, T:323

Power tool

Safety (Safety with electricity), S:11 Tool (History of tools), T:297 Woodworking (Cutting), W:307 Power, Harry (Australian bushranger),

P:732

Powers, Hiram [American sculptor], P:732

Sculpture (American sculpture), S:214
Powys (Wales), P:733 with picture
See also list of Related Articles
Arms picture on, A:589

Powys, John Cowper [British writer], P:733

Powys, Llewelyn [British writer], P:733 Powys, Theodore Francis [British writer], P:733

Poynting vector

Poynting, John Henry, P:735

Poynting, John Henry British physicistl, P:735

Poznań [Poland], P:735

Pozzuolana [rock] Cape Verde (Economy), C:141

PR

See Public relations

Pr [symbol]

Praseodymium, P:739

Practical Criticism [book by Richards] Richards, I. A., R:268

Prado

Madrid (Education and cultural life).

M:37
Spain (Museums and libraries), So:174

Prado y Ugarteche, Manuel

Peru (The rise of APRA), P:316

Praed, Mrs. Campbell (Australian

writer| Australia, Literature of (The develop-

ment of the novel), A:830

Praeterita |book by Ruskin|

Ruskin, John, R:460
Praetor [law official], P:735

Law (Ancient Roman law), L113
Praetorian Guard, P:735

Augustus (Achievements), A:746 Rome, Ancient picture on, R:381

Pragjyaisha Assam (History), A:670

Pragmatic sanction (European history), P:735

Austria (Wars in the 1700's and 1800's),

Maria Theresa, M:204
Pragmatism [philosophy], P:735

Dewey, John, D:150 Iames, William, I:23

Peirce, Charles Sanders, P:246
Philosophy (Philosophy in the 1900's),

P:426
Prague (Czech Republic), P:736 with pic

Czech Republic, Cl:516; (Manufacturing and mining) Cl:519

Czechoslovakia (The rise of Bohemia)

Prague Orgy, The [book by Roth] Roth, Philip, R:407

"Prague spring" [Czech history]
Czech Republic (The 1960's), Ci:521
Czechoslovakia (The 1960's), Ci:525

Prahit

India, Languages of (Pali, Prahitand Apabhramsa), 1:123

Prairie, P:737 with picture and map

Conservation (To maintain the quality

of life), Ci:293 Grassland, G:306

North America (Plant life), N:254

Prairie chicken, P:738 Prairie dog (rodent), P:738 Animal picture on, A:385

Prairie Piains

Texas (Land), T:167
Prairie Provinces

Canada, C:71

Prairie schooner Wagon, W:4

Prairie style (architecture) Architecture (Frank Lloyd Wright),

A:535; picture on A:536 Chicago (Architecture), C:390 Wright, Frank Lloyd (Early career). W:417: picture on W:418

Praise of Folly, The [book by Erasmus] Erasmus, Desiderius, E:317 Humanism (The arts), H:363 Renaissance (Desiderius Erasmus and

Saint Thomas More). R:220

Frambanan [Indonesia], P:739 Pramudya Ananta Tur, P:739

Prandtl, Ludwig [German engineer] Aerodynamics (History), A:73

Prasad, Rajendra lindian nationalist, P:739

Praseodymium (chemical element), P:739

Pratap Sinha, Rana, P:740 Pratincole [bird], P:740 with picture Pratt, William Henry

See Karloff, Boris Pravaz, Charles [French doctor]

Hypodermic injection, H:416 Invention (Social needs), 1:311

Pravda [newspaper], P:740 Lenin, V. I. (Outcast), L:171

Moscow (Communications), M:629 Prawn

Shrimp, **S:400**

Praxiteles [Greek sculptor], P:740 with

Sculpture (Classical sculpture), S:206

Prayer ireligioni, P:740

Islam (Customs and ceremonies), 1:415 Lord's Prayer, L:385

Religion (Religious rituals), R:199 Prayer Book [religion], P:740

Prayers for Kierkegaard [music by Barberl

Barber, Samuel, B:106

Praying Hands [painting by Dürer] Dürer, Albrecht, D:353

Praying mantis

Eye picture on, E:443 Mantis, M:166

Pre-Columbian jewellery lewellery, J:110

Pre Raphaelite Brotherhood, P:762 Painting, P:73

Rossetti, Dante Gabriel, R:404 Pre-Socratic philosophy, P:770

Philosophy, P:423 Preacher bird

Vireo, V:401

Preamble

United Nations (The preamble to the United Nations Charter), U:162

Precambrian Eon

Australia (Geology), A:767 Precambrian time

Earth (The earth's earliest history), E:26; (The Mesozoic Era) E:27 with picture; table on E:30

Precaution (book by Cooper) Cooper, James Fenimore, Ci:336 Preceding spot

Sunspot (How sunspots form), So:427 Precession

Ballistics (Exterior ballistics), **B:59**

Gyroscope, G:445 North Star, N:263

Southern Cross, So:122

Precession of the equinoxes

Equinox, E:317 Hipparchus, H:217

Precious coral Coral, Ci:349

Precious stone

Crown lewels (Crowns). Ci:459 with picture

See also Gem

Precipitation

Antarctica (Climate), A:440

Hail, H:9 with picture

Rain (Average yearly precipitation), R:116: (World distribution of precipitation) R:116

Sleet, S:485 Snow, S:521

Solar energy (Stored solar energy), So:23

Water, W:72

Water (The unequal distribution of precipitation) picture on, W:75

Weather (table), W:111; (Moisture)

W:112

Precipitator

Air cleaner, A:189

Aluminium (Refining the bauxite),

Mining (Pumping methods), M:494

Precision skating

ice skating, 1:16 with pictures

Precocial bird

Bird (Caring for the young), B:348

Precognition

Clairvoyance, Ci:50 Telepathy, T:104

Precursor cell

Blood (Formation of new blood components), **B:398**

Predator Balance of nature (Maintaining the bal-

ance), B:34 with picture Insect (Beneficial insects), 1:246; picture on 1:247

Predestination [religion], P:741

Armenius, Jacobus, A:581

Fatalism, F:34

Foreordination, F:343

Presbyterians (Teaching and worship), P:763

Predicate

Sentence (Subject and predicate), S:257

Preeciampsia

Toxaemia of pregnancy, T:320

Preening

Bird (Feather care), B:343

Prefabricated building

Architecture (The Industrial Revolution), A:530 with picture Building construction, B:626

Prefaces to Shakespeare (work by

Granville-Barker Granville-Barker, Harley, G:296

Shakespeare, William (Modern criticism), S:325

Prefectural Assembly

Okinawa (Government), 0:423

Prefecture

Japan (Government), J:38 Rwanda (Government), R:506 Tokyo (Organization), T:286

Preferential voting, P:741

Election (Electoral systems in various countries), E:136

Voting (Counting the votes), V:428

Precerminated seed

Vegetable (Planting), V:322

Pregnancy, P:741 with picture See also list of Related Articles AIDS (How HIV is transmitted), A:179 Amniocentesis, A:337

Chlamydia, C:474

Drug abuse (Effects on family, friends, and work), D:322; picture on

Embryo, E:226

Premature birth, P:761

Toxaemia of pregnancy, T:320 Toxoplasmosis, T:321

Uterus, U:287

Prehistoric animal, P:743 with pictures See also list of Related Articles

Prehistoric art

Painting (Prehistoric painting), P:46 Prehistoric people (The appearance of art). P:758: picture on P:757

Sculpture, S:194 with pictures Prehistoric people, P:750 with pic-

See also list of Related Articles

Clothing, Cl:88; (Clothing through the ages) Ci:98

Dancino (Prehistoric times), D:25 Food (Prehistoric times), F:301

Hairdressing (Hairdressing through the ages), H:12 Invention (Prehistoric times), 1:314

Kenya (Early days), K:230 Medicine (History), M:313 with picture Paint (The history of paint), P:26

Painting (Prehistoric painting), P:46 Races, Human, R:42

Tool (History of tools), T:297 Transportation (Prehistoric times),

T:349 with pictures World, History of the, W:330

Prehistory

Archaeology (Beginnings), A:504 Prehistoric people, P:750 Textile, T:175

Prejonition

Petrol (Petrol octane ratings), P:329 Prejudice, P:761

See also Anti-Semitism; Ethnic group; Ethnocentrism; Minority group; Racism; Segregation

Prejudices (essay by Mencken) American literature (Satirists), A:318 Essay (Personal essays), E:330

Prelate, P:761

Prelude: Growth of a Poet's Mind. The lpoetry by Wordsworthl

Wordsworth, William, W:315

Mencken, H. L., M:344

Prelude and fugue

Classical music (Solo music), Ci:56

Prelude [music], P:761

Prelude to "The Afternoon of a Faun'

[music by Debussy]

Debussy, Claude, D:63

Premature birth, P:761

Baby (The developing baby), B:5

Premchand (Indian writer)

India, Literature of (The birth of nationalism), 1:128

Premenstrual syndrome (PMS), P:761

Premetalized dye

Dye (Kinds of dyes), D:362

Premier [title], P:762 Address, Forms of, A:41

See also Cabinet; Parliament; Prime minister

Premiers' conference, P:762

Premise

Deductive method, D:77

Logic, L:361

Philosophy (Logic), P:421

Set theory (In logic), S:277

Premium

Insurance, I:271; (How premiums are calculated) I:273; diagram on

Přemyslid dynasty

Czech Republic (The rise of Bohemia),

Czechoslovakia (The rise of Bohemia), Ch:523

Prenatal care

Baby (The expectant mother), B:5

Prendergast, Maurice Brazil (American painterl, P:762

Ashcan School, A:620

Preoccupations in Australian Poetry (work by Wright)

Wright, Judith, W:418

Preparation plant

Coal (Cleaning coal), Cl:128

Preparatory school

England (Education), E:267

Preposition [grammar], P:762.

Grammar (Function words), G:286

Prepress solvent extraction

Vegetable oil (Production), V:323

Présages, Les [bailet by Massine] Massine, Leonide, M:247

Presbycusts

Deafness (Aging), D:56 Ear (Diseases), E:13

Presbyopia [vision]

Eye (Defects of the eye), E:439 with diagram

Presbyter John

See Prester John

Presbyterians (religious group), P:763

Calvin, John (Calvinism), C:44

Covenanters, Ci:402

Knox, John, K:310

Northern Ireland (Religion), N:270

Protestantism (The conservative re-

form movements), P:816

Reformation (John Calvin), R:182

Scotland, History of (The Reformation),

S:171

Scotland (Religion), S:162

Preschool education

Early childhood education, E:14

Nursery school, N:354 with picture Prescott, Samuel [American patriot]

Revere, Paul (Paul Revere's ride), R:246 Prescribed burning

Conservation (Conservation of grazing lands). Ci:296

Prescription

Pharmacy (Duties of a pharmacist), P:358

R. R:36

Prescription drugs

Drug abuse (Abuse of legal drugs),

Preseli Pembrokeshire [Wales], P:763 Prešeren, France

Slovenia (People), S:493

Preservation, Food

See Food preservation

Preservative [food]

Food additive, F:304

Food preservation (Adding additives),

F:307

President (title), P:764 with pictures Address, Forms of, A:40

Electoral College, E:139

Parliamentary procedure, P:194

President of the United States, P:769 See also list of Related Articles

President (Limited presidency), P:764;

(History) P:768 White House, W:233 with pictures

President [ship]

Decatur, Stephen, D:65

Perry, Matthew Calbraith, P:290

Presidential government

Government, G:273

Presidium

Politburo, P:647

Presiey, Elvis, P:770 with picture Popular music (Pop music), P:683 Rock music (The emergence of rock

"n" roll), R:311 with picture

Press agent

Public relations (Methods), P:841

Press (engineering)

Machine tool (Metal-forming operations), M:17

Press (journalism)

Freedom of the press, F:437 See also Newspaper; Printing

Journalism, J:149

Public opinion, P:838

Press brake

Machine tool, M:17

Press gangs, P:771 with picture Pressburg

See Bratislava

Pressing

Ceramics (Making ceramics), C:326

Pressure altimeter

Altimeter, A:289

Barometer (Uses), B:116

Pressure, P:771

See also list of Related Articles Air (Weight and pressure), A:184 Boiling point, B:423

Gas (How gases behave), C:58 Pascal's law, P:209

Pressure cooker

Cooking (Other methods), Cl:335

Pressure gauge

Gauge, G:63 with picture

Pressure hull

Submarine, So:368

Pressure maintenance Petroleum (Enhanced recovery), P346

Pressure mine

Mine warfare (Kinds of naval mines). MIMBE

Pressure sore

Bedsore, B:183

Pressure system

Weather, W:114

Pressure vessel Nuclear energy (Power reactors),

N:324 with pictures

Nuclear reactor, N:334

Pressurized cabin

Aeroplane (Engineering improvements), A:83

Pressurized water reactor

Nuclear energy (Steam production),

Nuclear reactor (The coolant), N:334

Prester John (legendary figure), P:772 **Prestidigitation**

Magician (Kinds of magic), M:48

Preston (England), P:772

Preston Riverway Lancashire picture on, L:40

Preston, Thomas (British officer)

Boston Massacre, B:477

Prestwick (Scotland), P:772 Presumption

Evidence, E:405

Fallacy, F:15

Presupposition

Empiricism, E:232

Pretenders (claimants to English

thronel, P:772 Pretoria [South Africa], P:772 with pic-

ture

Gauteng, G:64 Transvaal, T:364; (History) T:364

Pretoria Convention [1881]

Transvaal (History), T:364

Tranzvaai (History), T:364 Pretoria-Witwatersrand-Vereeniging

(former province, South

Africal

See Gauteng

Pretorius, Andries Wilhelmus jacor bus [South African leader] South Africa, History of (Settlement of

Natal), So:79

Pretorius, Martinus (South African

leader) Gauteng, G:65

Pretorius, Martinus Wessel (South

African leader South Africa, History of (The Boer

republics), So:79

Transvaal (History), T:364 Pretty Polly Mine Ipainting by Nolan

Australia, Art and architecture of ple

ture on, A:784 Indian, American (Shamans, priests, Pretzel [food], P:773 food (Interesting facts about food). and prophets), I:148 Priestley, John Boynton English Prevailing westerly, P:773 writerl, P:776 Air (Air movement), A:185 Priestley, Joseph (English chemist), P:776 with portrait Calms, Regions of, C:43 Air (The study of air), A:188 Pacific Ocean (Wind belts), P:15 Chemistry (The phlogiston theory), Wind (General circulation), W:267 C:369 Preventive medicine Nitrous oxide, N:224 Holistic medicine, H:245 Oxygen (History), 0:538 Medicine (Prevention), M:307; (The specialities) M:311 Rubber (First uses), R:429 Science, S:148 Prophylaxis, P:809 Prévert, Jacques [French poet], P:773 Primary aging Aging (Types of aging), A:159 Previn, André [American conductor]. Primary battery P:773 Battery (Kinds of batteries), B:154 Prévost, Abbé (French author) Edison, Thomas Alvar (Inventor-French literature (The Age of Reason), industrialist of West Orangel, E:81 Primary bow Priam [Greek mythology], P:774 Pribliof Islands [Bering Seal, P:774 Rainbow, R:120 Primary Chronicle Bering Sea controversy, B:244 Russia (History), R:484 Pribylov, Gerasim Loginovich (Rus-Primary colour sian explorer Colour (Mixing colorants). Ci:194: Pribilof Islands, P:774 (Mixing coloured lights) Cl:196 Price [money], P:774 with pictures See also list of Related Articles Primary consumer Economics (Markets, prices, and com-Ecology (Energy flow), E:57 petition), E:62 Primary election [U.S.], P:776 Value, V:304 **Primary** explosive Price control, P:775 Explosive, E:430 Inflation (Weapons against inflation), Primary industry Industry (Other systems of classifica-Price (Government intervention), P:774 tion), 1:224 Rationing, R:143 Primary Mental Abilities (book by Price freeze Thurstone) Price (Government intervention), P:774 Thurstone, Louis Leon, T:234 Price, Colonel Tom Primary producer Slouch hats, S:489 Ecology (Energy flow), E:57 Price, Leontyne [American singer], Primary recovery P:775 with portrait Petroleum, P:346 Price, Nick (Zimbabwean golfer) Golf picture on, G:250 **Primary root** Plant (Roots), P:553 with picture Price, Richard (Welsh minister), P:775 Root (Kinds of roots), R:392 Pricing Seed (The parts of a seed), S:235 Marketing, M:213 Prickly ash, P:775 Primary school United Kingdom, Educational systems Prickly heat [disorder], P:775 of the, U:95 with picture Pare, P:691 Prickly pear (plant), P:775 with picture Primary source History (Choosing and evaluating Cactus, C:10 with picture Pride and Prejudice (book by Austen) sources), H:224 Primary succession Austen, Jane, A:748 Ecology (Changes in communities), Novel (Great Britain), N:312 Pride, Thomas (English military leader) E:57 Long Parliament, L:378 Primary tissue Root (Secondary tissues), R:393 Pride's Purge, P:776 Rump Parliament, R:457 Primate, P:777 with pictures Pride's Purge, P:776 Human being (Scientific classification), Long Parliament, L:378 H:346 Rump Parliament, R:457 Mammal (table), M:137 Priene [ancient Greece] Primate of all England City picture on, Ci:23 England (Religion), E:268 Priest [religion], P:776 Prime factor [mathematics] Address, Forms of, A:41 Factor, F:4 Anglicans (Christian unity), A:368 Prime meridian Greenwich Meridian, G:364 Druids, D:324 Eastern Orthodox Churches (Clergy), Map (Geographic grids), M:187

Meridian, M:364 Time (Worldwide time zones), T:257 Prime minister, P:778 Address, Forms of, A:41 Cabinet, C:3 Canada, Government of, C:93 England (Government), E:262 Parliament, P:190 Premier, P:762 United Kingdom, Government of the, U:111 Prime number Factor, F:4 Number theory, N:343 Sieve of Eratosthenes, \$:414 Prime of Life, The Ibook by Beauvoir Beauvoir, Simone de, B:175 Primer Ammunition, A:335 Rifle (How a rifle works), R:274 Primer (paint) Paint (Household paints), P:23 Primeval history Genesis, G:78 Primeval solar nebula Astronomy (Explaining the origin of the solar system), A:698 Priming Tobacco (Harvesting tobacco), T:270 Primittive blind snake Snake, S:516 Primo de Rivera, Miguel Alfonso XIII, A:249 Falange Española, F:12 Spain (The reign of Alfonso XIII), So:186 Primogeniture, P:778 Primordial background radiation Astronomy (The universe), A:692 Primrose, P:778 with picture See also Cowslip Primrose, Archibald Philip Rosebery, Earl of, R:400 Prince, The (book by Machiavelli) Borgia, Cesare, B:468 Italian literature (Humanism and the Renaissance). I:445 Machiavelli, Niccolò, M:11 Prince Ananias (work by Herbert) Herbert, Victor, H:157 Prince (title), P:779 Address, Forms of, A:40 Prince consort (title), P:779 Albert, Prince, A:233 Philip, Prince, P:367 Prince Edward Island (Canada), P:779 Acadia, A:18 with map Atlantic Provinces, A:721 Prince Friedrich von Homburg book by Kleistl Kleist, Heinrich von, K:295 Prince Igor (music by Borodin) Ballet (Russian ballet), B:56 Borodin, Alexander, B:471 Fokine, Michel, F:285 Prince of Wales (title), P:779

Charles, Prince, C:353

Edward I, E:93

Edward II, E:93

Principle of uniformitarianism Igeol-

ogy)

Principles and Practice of Medicine [book by Osler] Osler, Sir William, 0:510 Principles of Geology [book by Lyell] Evolution (Darwin's theory), E:412 Geology (Experimental geology), G:93 Lyell, Sir Charles, L:424 Principles of Literary Criticism |book by Richardsl Richards, I. A., R:268 Principles of Orchestration book by Rimsky-Korsakovl Rimsky-Korsakov, Nikolai, R:278 Principles of Political Economy and Taxation [book by Ricardo] Ricardo, David, R:260 Principles of Psychology, The book by lamesi American literature (Nonfiction writers), A:316 lames, William, 1:23 Principles of Quantum Mechanics. The book by Diracl Dirac, Paul Adrien Maurice, D:186 Principles of Rational Medicine book by Hahnemann) Hahnemann, Samuel, H:8 **Print** Fossil (How fossils form), F:371 Japanese print, J:64 with pictures Percale, P:274 Photography (Making a print), P:443 Printing, P:780 World, History of the picture on, W:345 Printer Computer, Personal (Hardware), Ci:269 Printing, P:780 with pictures Advertising (The impact of printing), Block printing, B:392, with picture Book (The development of printed books), B:455 with pictures Communication (In the early 1800's), Ch231; (In the late 1800's) Ch232 Communication (The 1600's and 1700's), Cl:231 with pictures Communication (The start of printing), Desktop publishing, D:134 with picture Education, E:93 Engraving (Printing the engraving), E:296 with picture Graphic arts, G:300 Gutenberg, Johannes, G:432 Ink. I:235 Invention (The Renaissance), 1:316 Italics, 1:446 Japanese print, J:64 with pictures Korea (Early years), K:328 Library (Paper, printing, and libraries), L:232 Linotype, 1:296 Magazine (Editing and assembling an issue), M:41 Photography, P:452 with pictures

Publishing (Designing and printing) Earth (History of the earth), E:25 P:844 Stamp collecting, So:271 Textile (Finishing the fabric), T:173 with picture Type, T:483 United States, History of the (Cultural change), U:248 World, History of the (China), W:345 with picture Printing calculator Calculator, C:24 Prío Socarrás, Carlos Cuba (The Batista era). Cl:481 Prion [bird], P:788 Prion (protein), P:788 Microbiology, M:437 Prior appropriation Riparian rights, R:288 Prior, James (British politician), P:788 **Prioress** Convent, Cl:318 Priory See Monastery **Pripyat Marshes** Belarus (Land and climate), B:209 Prism, P:788 with pictures Binoculars, B:297 with diagram Colour (The relation between colour and light), Ci:192 Light (Electromagnetic waves), L:259 with diagram Lighthouse (How lighthouses work), L:267 Newton, Sir Isaac, N:187 with picture Rainbow, R:119 with diagram Science (The scientific revolution), S:146; picture on S:144 Spectrometer, So:207 with diagram Prison, P:789 with picture See also list of Related Articles Australia, Legal system of, A:828 Law enforcement (Imprisonment), L:117 Port Arthur, P:692 Robben Island, R:300 Prison cell Prison, P:790 Prison hulks, P:791 Prison reform Prison (Early prison reform), P:790 **Prisoner for God** (book by Bonhoeffer) Bonhoeffer, Dietrich, B:448 Prisoner of war, P:791 Geneva Conventions, G:83 International law (The laws of war), E291 Korean War (The truce talks), K:331 Prisoner of Zenda, The book by Hopel Hope, Anthony, H:276 Priština (Kosovo) Serbia, S:266 Pritam, Amrita [Indian writer] India, Literature of (The search for modernity), 1:129 Pritchard, Katherine Susannah [Australian writerl Australia, Literature of (Modern nov

fine cuts) F:89; (Distribution) F:94 Rocket (Launching probes and satele(s), A:832 Recording industry (In a recording stu-Princhard, Sir John [British conductor], lites). R:318 dio), R:167 Probe linstrument P:792 Television, T:121; picture on T:124 Thermometer (Digital thermometer), Pritchard, W. T. Theatre, T:193 T:216 Fiji (History), F:78 Producer gas Private Angelo (work by Ustinov) Prober bill Carbon monoxide, C:189 Bird picture on, B:350 Ustinov, Sir Peter, U:286 Gas (How gas is manufactured), G:55 Problem solving Private bill Haber process, H:2 Education (Methods of teaching). E:89 Congress of the United States (Propos-**Producer goods** Research (Basic research), R:235 ing new laws), Ci:283 Industry (Other systems of classifica-Statistics (Using statistics to study Private enterprise tion), I:224 problems), So:302 Trade (The geographical extent of Product development Thorndike, Edward Lee, T:226 trade), T:326 Marketing, M:213 Problems in Canon Law book by Con-Private lines Production, P:794 Telephone, T:108 Business (Specialized departments), Conway, William Cardinal, Cl:327 Private ownership R:674 Conservatism (Political conservatism), **Proboscidea** Economics, E:59; (Economic problems) Elephant (Protecting elephants), E:207 Cl:305 E:60; table on E:65 Mammal (table), M:137 Private Reader [book by Van Doren] Food, F:299 **Proboscis** Van Doren, Mark, V:310 Industry, I:220 Butterfly (Mouthparts), B:686; picture Privateer (ship), P:792 Manufacturing (Kinds of manufacturon B:680 Kidd, William, K:244 ing), M:167 Fly (Head), F:278 with pictures Marx, Karl (Production and society), Pirate, P:519 Gnat, G:217 Privatization M:235 Insect (Mouth parts), I:249 with picture Mass production, M:245 Coal (Coal industry), Cl:130 Mosquito (Head), M:634 with pictures Trade (Trade and specialization), T:324 Conservative Party (Policies), Ch:305 Moth (Mouthparts), M:640 with pic-Production platform Nationalization, N:45 Petroleum (Offshore drilling), P:344 Thatcher, Margaret (Prime minister), Ribbon worm, R:260 T:188 Production test pliot Proboscis monkey (animal), P:793 Privet [plant], P:792 with picture Test pilot, T:161 Monkey picture on, M:565 Production well Privilege (law) Proboscis worm Well (Oil and natural-gas wells), W:144 Evidence, E:405 Animal (A classification of the animal Productive resources Privy Council, P:792 kingdom), A:414 Economics (Economic problems), E:60; Australia, Legal system of (Federal Worm (Ribbon worm), W:411 table on E:65 tribunals), A:828 Procaine (drug), P:794 Industry, 1:220 Cabinet (History), C:3 Process and Reality book by White-Professor, The book by Brontël Crown, The (The powers of the Brontë sisters (Their works), B:587 headl Crown), Ci:459 Whitehead, Alfred North, W:237 Professor [office] Royal Family of the United Kingdom Process colour printing Address, Forms of, A:41 (The queen and Parliament), R:423 Printing, P:785 with pictures Professor of Desire, The book by Privy councillor (title) Processing stage Address, Forms of, A:41 Rothl Electronics (How an electronic system Roth, Philip, R:407 Privy Seal, P:793 works), E:185 Priyadarsika (play by Harsha) Profit, P:794 Processional Street [Babylon] Harsha, H:69 Business, B:673 Babylon (The New Babylonian Empire), Capitalism (Businesses), C:145 Prizefighter Economics (Business and profits), E:62 Boxing, **B:494** Processor [electronics] Investment (Kinds of investments), Pro-nuncio [title] Computer, Ci:252; (Processing data) Vatican City (Diplomatic corps), V:317 C1:259 Percentage, P:274, P:276 Probability, P:793 Proclamation, P:794 Fermat, Pierre de, F:54 Profit motive Proclamation Day (Australia), P:794 Economics (Business and profits), E:62 Insurance, I:272 Proclamation of the Irish Republic Profit sharing, P:795 Mathematics (Branches of mathemat-Ireland, History of (The Easter Rebel-Bonus, B:452 ics), M:256; (Mathematics and the fion), 1:376 Progeria (disorder), P:795 scientific revolution) M:260 **Procompsognathus** Progesterone, P:795 Pascal, Blaise, **P:208** Dinosaur picture on, D:178 Abortion (Abortion methods), A:15 Permutations and combinations, P.286 Proconsul africanus [anthropology] Hormone (Growth and sex hormones), Ratio, R:143 Leakey family (Mary Douglas Leakey), Science (Mathematics and logic), S:139 M:278 Menstruation (The menstrual cycle), 1:136 Statistics, So:303; (Analysing the data) Procoptodon M:349 So:303 Prehistoric animal picture on, P:747 Probate [law], P:793 Miscarriage, M:508 Procurator fiscal [office], P:794 Oestrogen, O:413 Executor, E:414 Prodigal Son, The [parable] Oestrous cycle (Hormonal regulation), Probation, P:793 Jesus Christ (His teaching), J:98 Convicts in Australia (Probation), 0:414 Producer Ovary, 0:525 Cl:322 Film industry (Development), F:82; Reproduction, Human (In females),

(How films are made) F:82; (Pre-

production) F:83; (The rough and

R:225

Probation officer

Probe

Probation, P:793

mones), H:279

Butterfly (The larva), B:688

Proleg

Caterpillar (Appearance), C:258 G:95 Steroid (The sex steroids), So:319 Mathematics (The Greeks and Ro-**Proletariat** Program Calculator, C:24 Communism (The ideas of Marx). mans), M:257 Computer, Ci:252: (Basic principles of Cl:239 **Proof** [printing] Printing (Proofing), P:781 computers) Ci:256: (Programming Marx, Karl (The class struggle), M:235 Publishing (Designing and printing), a computer) Ci:261 Prologue [dramal, P:799 Computer, Personal (Software), Cl:269 Promenade concert P&44 Computer graphics, Cl:271 Wood, Sir Henry, W:300 Proofreader Desktop publishing, D:134 Prometheus [Greek mythology], P:799 Printing, P:781 Programmable calculator with picture Prop root Calculator, C:24 Deucation, D:142 Root (Kinds of roots), R:392 Programming language Hercules (Other adventures), H:164 Propaganda, P:803 See also list of Related Articles Computer, Personal (Software), Ci:269 Pandora, P:129 Guerrilla warfare (Modern guerrilla Progress [spacecraft] Prometheus Bound iplay by Aeschylusl Space exploration (Salyut and Skylab), Aeschylus, A:108 techniques), G:404 So:155 Prometheus Unbound (poem by Shel-World War II, W:403 with picture Progression [mathematics], P:795 levi **Propagation** Progressive Democrats (PD's), P:796 Shelley, Percy Bysshe (His writings), Grafting, G:282 Progressive Liberal Party (PLP) Grape (Growing grapes), G:298 S:349 Bahamas (History), B:30 Prometheus [music by Scriabin] Plant (How plants reproduce), P:559 Progressive movement, P:796 Scriabin, Alexander, 5:184 Propane Progressive rock Promethium lelementl, P:800 Balloon (Hot-air balloons), B:62 Rock music (Expanding styles and Isotope (Artificial radioisotopes), 1:428 Butane and propane, B:676 sounds), R:312 **Prominence** Gas (Gas in the home), G:49 Prohibition [law], P:797 with picture Magnetism (The magnetism of the Hydrocarbon (Aliphatic hydrocarbons), See also list of Related Articles with sun), M:57 H:400 the Prohibition article Sun (The sun's activity), So:416 Irradiation, 1:405 Alcoholic beverage (History), A:238 Sunspot (Recent findings), So:427 Natural gas liquids, N:46 Mafia. M:39 Promises: Poems 1954-1956 [work by Propanol Nation, Carry Amelia Moore, N:29 Warrenl Alcohol, A:237 Roaring Twenties, R:299 Warren, Robert Penn, W:40 **Propellant Project Tiger** Aerosol, A:107 with pictures Promising Career, A [book by Brown] Animai (Protected areas), A:413 Brown, Christy, B:592 Ammunition, A:335 Projectile Rocket (Rocket propellant), R:317 Promissory note, P:800 Ammunition, A:334 with diagrams Space exploration (Space exploration Promontory Ballistics, B:59 terms), So:130; (Overcoming grav-See Cape Guided missile, G:406 with pictures Promotion ity) So:133 and diagrams Marketing, M:213 Propeller, P:807 with pictures Rocket, R:316 with pictures **Promotion examination** Aeroplane, A:93 with pictures Torpedo, T:303 with diagram Ducted propeller, D:339 with picture Eleven-Plus, E:209 Projection Motorboat racing (Engine designs), **Promotion of Bantu Self Government** Map (Map projections), M:187 Act [1957] M1650 Projection copying Ship (Development of the screw pro-Eastern Cape (History), E:46 Photocopying, P:434 Pronghorn [mammal], P:800 with picpeller), S:372; (Shipbuilding) Projection screen, P:798 with pictures Film Industry (The screen), F:93 Animal, A:384 Proper motion (astronomy) Projective test Horn, H:280 Halley, Edmond, H:22 Graphology, G:301 Star (Star terms), So:280; (Star mo-Pronoun, P:801 Personality, P:299 Antecedent, A:447 tions) So:282 Psychology (Systematic assessment), Case, C:225 Proper noun Declension, D:72 Noun, N:309 Testing (Personality tests), T:163 Propertius, Sextus (Roman poet) Gender, G:74 Projector, P:799 with pictures Latin literature (The Augustan Age), Number, N:343 Edison, Thomas Alva picture on, E:78 Person, P.299 L:99 Film industry, F:93 with picture Prontosil rubrum [drug] Property [law], P:808 Prokaryotic cells [biology] Domagk, Gerhard, D:254 Abandonment, A:4 Cell (table: Terms used in the study of Pronunciation, P:802 Easement, E:39 cells). C:293 Dictionary (What a dictionary tells Eminent domain, E:230 Law (Private law), L:110; (English law In Prokhorov, Alexander Mikhailovich you). D:165 [Russian physicist], P:799 English language, E:281 the colonies) L:115 Basov, Nikolai Gennadievich, B:141 French language, F:444 Lease, L:140 Nobel Prizes (Physics), N:227 Irish language, £380 Torrens system, T:304 Prokofiev, Sergei Sergeyevich [Rus-Lisping, L:307 Vandalism, V:307 Women's movement (The beginnings sian composeri, P:799 Phonics, P:430 of a women's movement, W:295 **Prolactin** Proof [alcoholl Hormone (Endocrine control hor-Alcoholic beverage (Distilled bever-**Property Act of 1925**

ages), A:238

Geometry (Axiomatic organization),

Proof [mathematics]

Villein, V:394

Property development

Town planning (Governmental author

Protective resemblance Prosimian (zoology) ity), T:317 Primate. P:777 with pictures See Mimicry Property Insurance Protective tariff Proslavery movement Insurance, 1:274 Tariff (Main kinds of tariffs), T:44 Slavery (Views of slavery), S:481 Property tax, P:809 Protectorate, P:813 Prophet, The (book by Gibran) Prosoma Cameroon (History), C:60 Horseshoe crab, H:310 Gibran, Kahlil, G:155 Civil War, English, Ci:46 Prospecting, P:810 with picture Prophet Ireligion, P:809 Cromwell, Oliver, Cl:451 Salesmanship, S:49 Bible, B:272 Egypt (British control), E:117 Prospero and Ariel [work by Gill] Indian, American (Shamans, priests, England (The Civil War), E:278 Gill. Eric picture on, G:159 and prophets), 1:148 Protein, P:813 Prostagiandin [chemical compound], lews (The divided kingdom), J:113 See also list of Related Articles Religion (Judaism), R:201 Cell (Producing proteins), C:299 Prophets, The Old Testament Aspirin, A:668 Diet (Normal diet), D:169 Fever, F:65 Rible, B:272 Fever, F:65 (buprofen, 1:4 Old Testament, 0:427 Food supply (Basic human food Prostate gland, P:811 Prophylaxis (medicine), P:809 needs), F:310 Reproduction, Human (In males), Propionic acid Heredity, H:165; (table) H:166; (Genes R:226 buprofen, 1:4 and proteins) H:170 **Prosthesis** Propolis Heredity (How proteins are made), Artificial limb, A:611 Bee (The honey bee colony), B:185 H:171 Prosthetic group Proportion (mathematics), P:809 Human body (Chemical elements and Enzyme, E:310 Arithmetic, A:573 molecules), H:350 Prosthetics (medicine), P:811 Geometry (Similarity), G:95 Kwashiorkor, K:346 **Prosthodontics** Proportional control Life, L:249 Thermostat (How thermostats work), Dentistry, D:120 Lymphatic system (Absorption of fats), Prostitution, P:812 T:218 with picture L:426 Bath (History), B:151 Proportional representation, P:809 Metabolism (Anabolism), M:373 Protactinium (element), P:812 Democracy, D:101 Milk. M:466 Hahn, Otto, H:8 Nutrition, N:363; (Protein rie malnutri-Election (Electoral systems in various Protea, P:812 with pictures countries), E:138 tion) N:368 Protected area Finland (Political parties), F:114 Peliagra, P:248 Animal, A:413 Preferential voting, P:741 Proteles cristatus Protection Voting (Counting the votes), V:428 Animal (How animals protect them-Aardwolf, A:3 **Proportionality** Proterozoic Era selves), A:401; (Animal defences Geometry (Similarity), G:95 Earth (The earth's earliest history), and weapons) A:402 with pictures Proposition [debate] E:26 Animal (How human beings protect Debate, D:61 **Protest** animals), A:413 Propranolol (drug) See Civil disobedience; Civil rights; Animal (Providing protection), A:408 Beta-blocker, B:262 Riot Clothing, Cl:90 with picture Proprioceptor Protest song Reptile, R:233 Muscle sense, M:716 Rock music (Expanding styles and **Protection of wildlife** Propulsion, Jet sounds), R:312 Bird (Protective laws and treaties), Protestant Episcopal Church See Jet propulsion Propylaea B:355 See Episcopal Church Wildlife conservation, W:250 Acropolis, A:26 Protestant ethic, P:814 Protection racket Reformation (Political and social influ-Athens (The Acropolis and its build-Alcoholic beverage (History), A:238 ings), A:707 ences), R:182 Propylene Protective clothing Protestantism, P:815 Fire brigade, F:131 with pictures England (The English Reformation), Glycerol, G:216 Protective coloration, P:812 Petrochemicals, P:328 See also list of Related Articles with E:277 Prosauropod Knox, John, K:310 the Protective coloration article Dinosaur (Kinds of dinosaurs), D:177 Latin America, L:83 Animal (Camouflage), A:401; picture Proscenium stage Northern Ireland (Religion), N:270 on A:403 Drama (The Italian stage), D:290 Oates, Titus, 0:376 Bird (Protection against enemies), Theatre (The stage), T:191 Reformation, R:180 B:344 with picture Prose, P:810 Religious life (Protestant churches), **Butterfly (How butterflies protect** See also list of Related Articles R:209 themselves), B:689 with picture Australia, Literature of (Early descrip-Thirty Years' War, T:221 See also Ireland, History of; Scotland, Chameleon, C:339 tive prose), A:830 Fish (External anatomy), F:167; (How Greek literature (Historical literature), History of fish protect themselves) F:172 Proteus book by West G:357; (The Graeco n Age) G:358 Grasshopper, G:304 India, Literature of, 1:119 West, Morris, W:156 Insect (Protection from enemies), 1:259 Irish literature (Heroic tales, romances, Prothallium Lizard (Defences), L:340 Fern (Life cycle of a fern), F:56 and sagas), 1:381; (Prose and po-Mammal (Methods of attack and de-Protist lorganisms), P:817 etry) 1:382 fence), M:135 with picture Prose Edda (book by Snorri)

Moth (Defences against enemies),

Reptile (Protection), R:233

M:641

Edda, E:74

See Persephone

Proserpina

Algae, A:250

Animal, A:376

Bacteria, B:19

Proust, Joseph Louis (French chemist).

Proust, Marcel [French author], P:820

French literature (The 1900's), F:450

Psaila, Carmelo (Dun Karm) [Maliese Novel (New directions in the novel), Classification, Scientific (Groups in N-313 writer], P:824 classification), Ch67 Proved area Psalms, Book of, P:824 Kingdom, K:256 Classical music (The Middle Ages), Gas (Exploring for gas), G:51 **Protium** Cl:59 Atom (The isotopes of hydrogen) pic-**Provençal** Pseudonym, P:824 ture on, A:726 French language (Old French), F:445 Mistral, Frédéric, M:516 Name, N:11 Hydrogen (Properties), H:404 Pen name, P:251 Isotope, I:427 Romance languages, R:348 Spanish literature (Early medieval liter-**Protoceratops** Pseudopod [biology] Dinosaur (Ornithischians), D:180 aturel, So:193 Amoeba, A:338 Protocol, P:818 Troubadour, T:419 **Pseudoscience** Proton acceptor Provence [France] Alchemy, A:235 Astrology, A:680 Base, B:123 Gaul, G:63 Proton, P:818 **Proventriculus** Fortunetelling, F:366 Alpha particle, A:282 Bird picture on. B:353 Graphology, G:301 Atom (The parts of an atom), A:724 Proverb. P:820 Numerology, N:350 with picture Proverbs, Book of [Old Testament]. Palmistry, P:109 Baryon, B:122 Phrenology, P:468 Base, B:123 Providenciales [island] Pseudostem Earth (The earth's magnetism), E:21 Turks and Calcos Islands, T:469 Banana (How bananas grow), B:71 Electricity (Kinds of electricity), E:166; Province [political unit], P:821 Psi particle, P:824 (table) E:168 Religion (How the major religions are Meson, M:370 Electron, E:178 organized), R:200 Physics (Advances in the mid-1900sl, Electronics (How an electronic system Provisional government, P:821 P-478 works), E:185 Provisional IRA [Irish history] Psilocybin Element, Chemical (The Periodic Irish Republican Army, I:384 Brain (How drugs affect brain chemis-Table), E:196 Provok'd Wife, The [play by Vanbrugh] try), B:517 Gluon, G:216 Vanbrugh, Sir John, V:306 Psittacosis [disease], P:825 Isotope, I:427 **Provost** Parrot (Parrots as pets), P:202 Magnetic storm, M:53 Cathedral (Organization of a Cathe-Veterinary medicine, V:352 Magnetism (Magnetism in atoms). dral), C:260 Psocoptera (entomology) Prow Insect (table). I:262 Neutron, N:105 Vikings (The Vikings as shipbuilders), Psoriasis, P:825 Nuclear energy (Atoms and nuclei), V:390 Skin (Other skin disorders), S:471 N:320 **Proxemics** Psyche lancient mythologyl, P:825 Nuclear physics, N:332 Communication (The study of nonver-Psychedelic drug Physics (Uncovering the secrets of the bal communication), Cl:237 Hallucinogen, H:24 atom), P:478 Proxima Centauri Psychiatric disorder Quark, 0:7 Alpha Centauri, A:282 Psychiatry, P:825 Radioactivity (Beta radiation), R:88 Astronomy (Stars), A:690 Psychiatry, P:825 Rutherford, Ernest, R:505 Star (The distance of stars), So:281 See also list of Related Articles Proton donor Barbiturate (Medical uses), B:107 Proximity fuse Acid, A:24 Ammunition (How shells explode), Medicine (The specialities), M:311 Protonema A:336 Psychical research, P:826 Moss (How mosses live), M:637 Bomb, B:433 Psychoanalysis, P:826 Protoplasm, P:818 Warship (Warships in the two world See also list of Related Articles Abnormal psychology (Theories of ab-Amoeba, A:338 wars), W:46 Cell, C:292 Proxy, P:821 normal psychologyl, A:12 Ecology (Energy flow), E:57 Marriage (Laws concerning marriage), Ego, **E:99** Protozoan, P:818 with pictures M:218 Freud, Sigmund (His life), F:457 See also list of Related Articles Voting (Methods of voting), V:428 Jones, Ernest, J:139 Earth (The Mesozoic Era), E:27 Prune (fruit), P:821 Jung, Carl Gustav, J:168 Malaria, M:78 with pictures Personality (Freud's psychoanalytic Plum, P:599 Protractor, P:819 with picture Pruning, P:821 with pictures theory), P:300 Angle, A:367 Fruit (Caring for the crop), F:473 Phobia, P:428 Tool (Woodworking tools), T:296 Tree (Caring for the tree), T:389 Psychology, P:830 Psychotherapy (Analytical psychother-Protura [entomology] Tree surgery, T:393 Insect (table), I:261 Prussia, P:822 with map apy), P:831 **Protylopus** See also list of Related Articles Psychoanalytical theory Developmental psychology, D:144 Prehistoric animal (The development Germany (The rise of Prussia), G:132 of placentals), P:747 Prussian blue, P:823 Psychogenic fugue Proud Servant, The [book by Irwin] Prussic acid, P:824 Amnesia, A:337 Irwin, Margaret, 1:410 Almond, A:280 Psychohistory History (Interpreting historical events), Proudhon, Pierre Joseph (French re-Tapioca, T:41 former], P:819 Prut [river], P:824 H:225

Przewalski's horse, P:824 with pic-

Horse (Wild horses), H:291 with pic-

ture

ture

Psychokinesis

Extrasensory perception, E433

Psychological warfare, P.827

Propaganda, P:803

Public domain, P:834 Psychology, P:827 with picture Fossil picture on, F:369 See also list of Related Articles Pterosaur, P:833 Clinical psychology, Ci:84 Pterosaur, P:833 with picture Public health Communication, Ci:236 Fossil (Understanding ancient plants Comparative psychology, Ci:247 with and animals), F:369 sues) A:180 Prehistoric animal (Other reptiles), picture Health, H:96 Developmental psychology, D:144 P:746 Educational psychology, E:93 Pteryla Feather (Kinds and parts of feathers), industrial psychology, 1:208 Personality, P:299 Ptolemaic dynasty Science, S:141 Egypt, Ancient (The Ptolemies), E:129 Testing (Personality tests), T:163 ture Ptolemy [Greek astronomer], P:833 with Watson, John Broadus, W:101 Public housing Wundt, Wilhelm, W:424 Housing, H:330 Psychology from the Standpoint of a Antarctica (Discovery of a new conti-**Public law** Behaviorist [book by Watson] nent). A:442 See Law Astronomy picture on, A:696 Watson, John Broadus, W:101 **Public library** Atlas, A:722 Psychology of Learning, The book by See Library Circle (History), Cl:6 Thorndikel Copernicus, Nicolaus, Ci:339 Thorndike, Edward Lee, T:226 Galileo (Early scientific interests), G:13 Bonding, B:445 Psychomotor Map picture on, M:191 Epilepsy, E:312 Mathematics (The Greeks and Ro-**Psychopathology** mans), M:257 Abnormal psychology, A:12 Moon (table), M:595 Psychosis, P:831 Physics (The Greeks), P:474 Abnormal psychology (Theories of ab-Planet (Explaining the motion of the normal psychology), A:12 planets), P:537 Clinical psychology (Psychotherapy P:828 Sun (Early sun science), So:420 and consultation), Ci:84 Trigonometry, T:400 Cocaine (Physical and psychological Public ownership Ptolemy I (king of ancient Egypt), P:834 effects), Cl:139 Alexandrian Library, A:246 Mental illness (Kinds of mental ill-Egypt, Ancient (The Ptolemies), E:129 nesses), M:351 Ptolemy II lking of ancient Egypti Psychiatry (Psychiatric disorders), Alexandrian Library, A:246 P:825 Philadelphia (ancient Greece), P:362 Tranquillizer, T:337 Ptomaine poisoning, P:834 Psychosomatic disease **Public school** Ptyalin Biofeedback (Biofeedback in medicine Digestive system (From mouth to and psychology), B:300 stomach), D:171 with diagram Disease, D:195 **Public sculpture** Mastication, M:251 Psychosomatic medicine, P:831 Saliva, S:51 Psychosurgery Pu-239 [isotope] Mental illness, M:355 **Public services** Nuclear energy (Experimental breeder Psychotherapy, P:831 Economics, E:63 reactors), N:331 See also list of Related Articles Uranium (Radioactivity and fissionabil-Clinical psychology, Cl:84 ity), U:273 Mental tilness, M:354 Pu Yi lemperor of Chinal, P:834 Personality (Personality change), Public television Puberty P:301 Adolescent (Physical growth and de-Psychiatry, P:826 Public transport velopment), A:52 Psychotic disorders Hormone (Growth and sex hormones), Mental iliness, M:352 T:356 Psychrometer | H:278 Reproduction, Human (The human re-Hygrometer, **H:409** productive system), R:225 Psyllium (plant), P:832 Economics, E:63 Pt [symbol] Sex, S:290 Pubic symphysis [anatomy] Platinum, P:588 Plarmigan, P:832 Pelvis, P:250 **Publicity** Animal (Camouflage), A:401 Publs Hip, H:217 with diagram Bird picture on, B:316 Publishing, P:844 Protective coloration picture on, Pelvis, P:250 Public administration P:813 Pteranodon Political science, P:653 Desktop publishing, D:134 with plc-Prehistoric animal picture on, P:743 Public bill Congress of the United States (Proposture

ing new laws), Ci:283

Nationalization (Forms of nationaliza-

Public corporation

tion), N:46

Pterosaur, P:833 Pteraspis (extinct fish)

Pteridophyte [plant], P:833

Pterodactyl [extinct animal]

Prehistoric animal picture on, P.745

Public Enemy, The [film] Cagney, James, C:15 AIDS (Prevention), A:180; (Social is-Medicine (Prevention), M:307; (Preventive medicine) M:312; (Greece and Rome) M:314 Public house, P:834 with pictures England (Way of life), E:266 with pic-Public official bond Public opinion, P:837 with picture Town planning (Gaining support for the plan), T:317 Public opinion poll, P:839 Galiup, George H., G:17 Market research, M:213 Psychology (Systematic assessment), Sociology (Surveys), So:12 See Government ownership Public relations, P:841 See also list of Related Articles Public revenue, P:842 See also Income tax; Local government: Taxation England (Education), E:268 United Kingdom (Education), U:52 Sculpture (Royal and public sculpture), S:202 with pictures Public speaking, P:842 Public Speech [poetry by MacLelsh] MacLeish, Archibald, M:21 Television, T:120 Transportation (Public transportation), Public trustee, P:843 Public utility, P:843 Public Works Administration (PWA) New Deal (Helping the needy), N:110 Public relations (Methods), P:841 Computer (Creating and displaying documents and pictures), Ch255

See also Electronic publishing; list of

Puccini, Giacomo (Italian composer),

Related Articles

P:845

Westminster, Palace of, W:195

Pugin, Edward Welby (British archi-

Iodrell Bank Observatory, 1:122 tectl. P:851 Opera. 0:467 Lick Observatory, L:241 Opera (Bohème, La), O:467 Puisne judge Australia, Legal system of (Supreme Neutron star, N:105 Opera (Madama Rutterfly), 0:470 Opera (Tosca), O:473 courts), A:828 Radio telescope, R:RR Telescope (Radio telescopes), Tala Pukeko (bird), P:851 Puchero (food) Argentina (Food and drink). A:556 Pukumina [religion] Pulse Ifood India (Food), I:65; (Agriculture) I:72 West Indies (Religions), W:166 Paraguay (Food and drink), P:163 Puck (English folklore) Pulaski, Casimir (Polish nobleman). Pulse [physiology], P:853 See also Artery: Heart P:851 with nicture Fairy (Fairles in literature). F:10 Pull. P:851 Pulse radar Shakespeare, William (A Midsummer Pulitzer, Joseph [Hungarian publisher], Radar, R:58 Night's Dream), S:311 Puddling lagriculturel P:851 with portrait Pulsed laser Rice (Preparing the ground), R:264 Laser (Kinds of laser), L:73 **Pulled wool** Pulsejet Wool (Types of wool), W:310 with pictures **Puddling furnace** Pulley imachinel, P:852 with picture Aeroplane (let engines), A:95 Industrial Revolution (The revolution Archimedes (His discoveries), A:511 Prima in ironmaking), l:214 Block and tackle, B:391 with diagrams Mountain lion, M:671 with pictures Puebla (city, Mexico), P:846 Machine, M:13 with picture Pumice, P:853 Puebla [state, Mexico], P:846 Pullman sleeping car Igneous rock, I:28 Pueblo Itribel Pullman, George Mortimer, P:852 Rock (Extrusive rock), R:307; picture Indian, American (Indians of the Pullman, George Mortimer | American on R:309 Southwest), I:159 inventor!. P:852 Volcano (Benefits of volcanoes), V421 Pueblo joven Pulmonary artery Pump-action rifle Peru (Housing), P:310 with picture Artery (Principal arteries), A:606 Rifle, R:274 with picture Pueblo revolt Circulatory system (In respiration), Ci:7 Pump. P:853 with diagrams Indian wars, I:174 Heart (Blood vessels), H:102 Construction equipment (Pumping ma-Pueblo [ship] Human body (The blood vessels). chines), Cl:310 Korea (North-South relations), K:329 Invention (Ancient Greece), I:314 Puerperal fever Pumped-storage hydroelectric plant Lung (Gas exchange in the lungs). Holmes, Oliver Wendell, H:247 Electric power (Hydroelectric power L:415 with diagram Semmelweis, Ignaz Philipp, S:248 Pulmonary capillaries [anatomy] stations), E:159 Puerto Rican amazon parrot Emphysema, E:231 Pumping Parrot (Kinds of parrots), P:200 Pulmonary circulation Laser (Parts of a laser), L:71 Puerto Ricans Circulatory system (In respiration), Cit7 Pumpkin, P:855 with picture New York City (Ethnic groups), N:147 Halloween (Jack-o-lantern), H:24 with Lung (Parts of the lungs), L:414 Puerto Rico (People), P:846 Pulmonary oedema picture Puerto Rico, P:846 with pictures and Oedema, 0:412 Jack-o'-lantern, J:3 Pulmonary pleura [anatomy] Pun, P:855 Arawak Indians, A:496 Pleura, P:596 Humour, H:371 Shakespeare, William (Rhetoric), \$323 West Indies. W:163 **Pulmonary surfactant** Punch and Judy [puppets], P.856 with Puff adder (snake) Respiratory distress syndrome, R:241 Adder, A:34 **Pulmonary** valve picture See also Snake Heart (Valves), H:102 Puppet (Hand puppets), P:863 Viper, V:401 Pulmonary vein Puncheon [unit of measure] Puffball (fungus), P:849 with picture Weights and measures (Miscellaneous Circulatory system (In respiration), Cl:7 Mushroom (Nonpoisonous mushweights and measures), W:136 Heart (Blood vessels), H:102 rooms), M:724 Human body (The blood vessels), Punctuated equilibrium Puffer [fish], P:849 with picture Evolution (Recent developments), H:156 Fish (Other useful fish), F:153 Lung (Gas exchange in the lungs), EMDMarine biology (Marine biologists). L:415 with diagram Punctuation, P:856 Pulo Pune Indial, P:857 Puffin, P:850 with picture Forest products (Fibre products), Punic Wars, P:857 Auk, A:746 See also list of Related Articles Pug, P:850 Rome, Ancient (History), R:377 Paper (Raw materials), P:134 with dia-Dog picture on, D:234 gram **Punishment** Puget Sound, P:850 with map Behaviour (Behaviourism), B:202 Puip magazine **Puget Sound Naval Shipyard** Science fiction (The 1900's), S:151 Capital punishment, A:118 Dry dock picture on, D:326 Pulping Child abuse, C:409 Convicts in Australia (Punishment), Puget, Peter (British naval officer). Coffee, Ci:152 with picture P:850 Pulque [drink] Ci:322 Crime (Crime prevention), Cl:438 Pugh, Clifton [Australian painter], P.851 Maguey, M:62 Criminology (What criminologists Pugin, Auguste Charles (British archi-Mexico (Food and drink), M:405 tectl. P:851 Pulque agave study), CI:441 Pugin, Augustus Welby Northmore Learning (Motivation), L:138 Maguey, M:62, with picture [British architect], P:851 Pulsar [astronomy], P:852 Penal colony, P:252 Architecture (The Gothic Revival), Astronomy (Astronomy terms), A:688; Prison, P:789 A:531 (Stars) A:690 Reformatory, R:183

Binary star, B:296

Cosmic rays, Ci:370

Sentence, \$:258

Punjab (region, south Asia), P:858

Pakistan (The Punjab and Sind plains). Englain Easter (The beginning of Lent), E:42 P:95 with picture and man O'Faolain, Sean, O:415 Lent. L:174 Punjab Istate, northern Indial, P.858 Purebred Purslane, P:867 with picture Purus River [Brazil-Peru], P:867 Dog (Kinds of dogs) D:236: (Chansing with pictures and map Amazon River (The course of the Ama-See also list of Related Articles a dog D:237 Horse (table: Horse terms). H:286: zon). A:299 Projabi (language) India, Languages of (Modern Indo-(Breeding horses) H:301 Purva-mimamsa Hinduism (The six schools of philoso-Pets (Choosing a pet). P:320 European languages), 1:123 Puréed foods phy), H:210 Pakistan, P:91; (Cultural groups and Pus (physiology), P:867 Baby (Solid foods), B:9 languages) P:93 Purgatory Ireligion, P:865 Abscess, A:15 Punjabis (people) Divine Comedy, D:205 Inflammation E229 Pakistan (Cultural groups and lan-Pusan (South Koreal, P:868 with picture Roman Catholic Church (Life after quages). P:93 Asia picture on, A:641 death), R:336 Prok rock Korea (Population), K:322 Purge (Soviet history) Rock music. R:313 Pusey, Edward Bouverie (English reli-Stalin, Joseph (Rule by terror), So:268 Punkle Night [custom] mous leaderl. P:868 Somerset (Local customs), So:37 Oxford Movement, 0:532 Flour (How white flour is milled). F:238 Pusey, Joshua |American patent lawyerl Purim (religion), P:865 Horse racing (Betting), H:308 Match (The invention of book Esther, Book of, E:335 Pupa. P:862 with picture matches), M:254 Judaism (Other holidays). 1:156 Beetle (The life cycle of beetles). B:197 Push Comes to Shove [dance by Tharp] Purktanism Butterfly, B:689 Tharp, Twyla, T:187 Puritans, P:866 Fly. F:279 with picture Pushkin, Alexander Russian poetl. Theocracy, T:213 Insect (Complete metamorphosis), Puritans (English history), P:866 with P-RGR 1:255 with picture Glinka, Mikhail Ivanovich, G:210 picture Metamorphosis, M:378 Russian literature (Early romanticism), See also list of Related Articles Mosquito, M:635 IK-498 American literature (New England), Moth. M:641 Pushtu (language) Pupfish. P:862 with picture A:310 Afghanistan (Ethnic groups and lan-Bath (History), B:151 Pupil (anatomy) quages), A:111 Calvin, John (Calvinism), C:44 Eye (Parts of the eye), E:435 Pakistan (Cultural groups and lan-Civil War, English (Religious causes), Reptile (Sense organs), R:231 with picguages), P:93 CE43 Pushtuns, P:868 England (The Civil War), E:278 Pupin, Michael Idvorsky [Serbian-Pushtuns (people), P:868 Hampton Court Conference, H:37 American physicist), P:862 Afghanistan (Ethnic groups and lan-Massachusetts, M:246 Puppet, P:862 with pictures guages), A:111 Reformation (In England), R:182 Animation, A:420 Pakistan (Cultural groups and lan-Puri stitch Drama (Japan), D:296 guages), P:93 Knitting (Knitting the fabric), K:304 Indonesia (Arts), 1:185 Pussy willow, P:869 with picture Textile (Weft knitting), T:171 Japan (Theatre), J:45 Willow, W:260 Japanese literature (The Tokugawa pe-Puritn Put Yourself in His Place book by Building construction (Beams, girders, riod), 1:64 Readel and columns), B:627 Punch and Judy, P:856 with picture Reade, Charles, R:149 Purple crowned fairy wren Shadow play, S:296 Putonghua Wren, W:414 Ventriloquism, V:338 China (Languages), C:440 Purple Dust [play by O'Casey] Putrefaction Irish literature (The Irish literary revi-Dog (Caring for a dog), D:237 Decay, D:65 val), I:383 Pet (House training), P:321 Decomposition, D:72 Pupusas (food) O'Casey, Sean, O:383 Putsch Purple flag flower, P:867 El Salvador (Food), E:221 Hitler, Adolf (The Beer Hall Putsch), Puranas [Indian sacred texts] Purple gallinule [bird] H:229 Hinduism, H:214 Gallinule, G:16 Putter India, Literature of (The Vedas), 1:125 Purple heron Golf (Golf clubs), G:246 Purback [England], P:863 with picture Heron picture on, H:181 Purcell, Henry (English composer), **Purple of Cassius** Sculpture (Early Renaissance), S:211 Gold (Gold in industry), G:233 P:865 Putty, P:869 Purchasing Purple osier Caulking, C:281 Manufacturing, M:168 Osier, 0:509 **Putty knife** Purple sea urchin [sea animai] Purchasing cooperative Knife, K:297 Animal picture on, A:394 Cooperative (Kinds of cooperatives), Purple swamphen Toy (Toys for early childhood), T:321 Ci:337 Purchasing power Puzzle-Headed Girl, The book by Gallinule, G:16 Purposive Behavior in Animais and Income, 1:52 Men [book by Tolman] Inflation, 1:230

Tolman, Edward Chace, T:288

Purse of Coppers, A lbook by O'-

Horse racing (Types of horse races),

Purse

Money (The value of money), M:351

Mathematics (The importance of math-

Pure mathematics

Pure Monday

ematics), M:255

Stead, Christina, So:307

Burma (Recreation), B:657

See Vinyl

Pwe [drama]

Dancing (Oriental dancing), D:24 PWV [former province, South Africa] Gauteno, G:64 South Africa, So:55 Transvaal, T:364 Vereeniging, V:345 **Pve Road** Roman roads, R:347 **Pvelonephritis** Kidney (Kidney diseases), K:245 Pygmalion (legendary figure), P:870 Dido, D:167 Pygmalion [play by Shaw] Campbell, Mrs. Patrick, C:63 Pygmalion, P:870 Shaw, George Bernard (Mature period), S:336

Pygmles, P:869 with picture Africa (The African geographical race), Burundi (People), B:666 Gabon (People), G:3

Negritos, N:69 Rwanda (People), R:507 Tropical rainforest (People and the rainforests), T:416 Zaire (Population and ancestry), Z:481 Pygmy goby Fish (Interesting facts about fish), F:152

Pygmy hippopotamus Hippopotamus, H:218 with picture **Pygmy marmoset**

Marmoset, M:215 with picture Pygmy parrot

Parrot (Kinds of parrots), P:200 Pygmy possum

Possum. P:711 Pygmy right whale Whale, W:206 Pyjamas (clothing) India (Clothing), 1:65

Pyle, Howard (American painter), P:870 **Pylon**

Architecture picture on, A:517 **Pyloric sphincter**

Stomach (The stomach's work), So:333 Pym, John (English parliamentarian), P:871 with portrait

Pynchon, Thomas [American writer] American literature (Fiction and other prose), A:320

Pyongyang [Korea], P:871 with picture Korea, K:318 with picture; (Population) K:323

Pyorrhoea alveolaris

Periodontitis, P:282 Pyorrhoea

Periodontitis, P:282 Teeth (Periodontitis), T:96 with dia-

Pyramid [geometry], P:871 with diagram Geometry picture on, G:97

Pyramid of biomass Ecology (Energy flow), E:57 Pyramid of energy

Ecology (Energy flow), E:57 Pyramid of food relations (ecology) Elton, Charles Sutherland, E:225 **Pyramiding**

Holding company, H:244 Pyramids and Temples of Gizeh lwork by Petriel

Petrie, Sir Flinders, P:328

Pyramids, P:872 with pictures Architecture (Egyptian architecture), A:518: (Pre mbian architecture) A:520 with picture

Aztec picture on, A:899 Egypt, E:100

Egypt, Ancient, E:120; (Architecture) E:126 with picture: (The Old King-

dom) E:128 Maya (Religion), M:277 with picture: nicture on M:280

Mythology (The Great Ennead), M:754 Nummulite, N:350 Seven Wonders of the Ancient World,

S:279 with picture Pyramids, Battle of the [1798] Egypt (Turkish and French control),

Napoleon I (Egypt invaded), N:20 Pyramus and Thisbe legendary fig-

Pyrenean sheepdog, P:875 Pyrenees, P:875

France, F:406 Pyrethrum, P:876 with picture

Insecticide (Botanical insecticides). Pyrexia idisorderi

Fever, F:65 Pyridoxine

Nutrition (Vitamins), N:364 Vitamin (Vitamin Bs, pantothenic acid,

and biotin), V:411 Pyrite, P:876 Crystal (Classifying crystals), Cl:469

with picture fron and steel (Kinds of iron ore), 1:388

Mineral picture on, M:484 Pyromania, P:876

Arson, A:529 Pyrometry, P:876 **Pyrosis**

Heartburn, H:114 **Pyrotechnics**

Fireworks, F:140 Pyroxene, P:876 Basalt, **B:123**

Diopside, D:183 Igneous rock, I:28 **Pyroxylin**

Plastics (The invention of Celluloid). P:582

Pyrrha Deucalion, D:142

Pyrrhic victory Pyrrhus, P:877

Pyrrho of Elis [Greek philosopher],

Philosophy (Scepticism), P:424 Scepticism, \$:123 **Pyrrhotite**

Mineral picture on, M:484 Pyrrhus (king of Epirus), P:877 Pyruvic acid

Cell (Producing energy), C:298

Metabolism (Catabolism), M:374 Respiration (Cellular respiration). R:240

Pvsanky

Ukraine (Arts), U:8 with picture Pythagoras [Greek philosopher], PA77 with portrait

Astronomy (Greek astronomy), A:697 Geometry (Greek geometry), G:98 Mathematics (The Greeks and Romans), M:257

Pre-Socratic philosophy (The first pre-Socratics), P:770 Sound (Early thought), So:53 Triangle (Properties and relationships

of triangles). T:397 Pythagoras' theorem, P:877

Triangle (Properties and relationships of triangles), T:397 with diagrams Pytheas [Greek explorer]

Arctic (Arctic exploration), A:544 Exploration (The ancient Greeks), E418 Ultima Thule, U:17

Pythia imythologyi Apollo, A:472 Delphi, D:99 Oracle, 0:480

Pythias (legendary figure) Damon and Pythias, D:17 Python, P:878 with picture

Animal (Incubation), A:406 Boa constrictor, B:412 Reptile, R:231 with picture Snake, S:505 with pictures

Sculpture (Early medieval sculpture), S:208



Q [letter], Q:1 with pictures O-BOP

Iron and steel (The basic oxygen process (BOP)), 1:392 with picture

O fever

Rickettsia, R:272 Qaboos bin Said (sultan of Oman), Q:2 Qadhafi, Muammar Muhammad al-

lLibyan political leader), Q:2 with portrait

Chad (History), C:333

Libya (Government), L:237; (Independence) L:239; (Libya today) L:239

Oafzeh [Israel]

Prehistoric people (The single origin theory), P:757; (Cultural development of modern human beings) P:758

Qajar dynasty Iran, I:339

Qandahar [Afghanistan], Q:2 Afghanistan, A:110

Qantas [airline], Q:2 Aeroplane (The golden age), A:80 Airline (table), A:208

Upsilon particle, U:271

historian], Q:7

See Quarrying

Ouarry

Consumerism (The right to quality),

Ci:312

Conservation, Ci:293

Quality Street [play by Barrie]

Barrie, Sir James Matthew, B:119

Quality of life

Quart funit of measurementl, Q:8 Quarter [money]. Q:8 with picture Quarter days, Q:8 **Quarter** horse Horse picture on, H:287 **Ouartering Act** American Revolution (British policy changes). A:323 Quartersawing Wood (Wood figures), W:300 Quartet [music] Barbershop quartet singing, B:106 Classical music (Chamber music). Ci:56 with picture Quarto [publishing] Folio, F:285 Shakespeare, William (Publishing history), S:324 Quartz, Q:8 with picture Agate, A:155 with pictures Crystal (Classifying crystals), Cl:469 with picture Igneous rock, 1:28 Mineral pictures on, M:483, M:485; (table) M:486 Whetstone, W:227 Quartz-based watch Watch (History), W:67 Quartz crystal oscillator High-fidelity system (The turntable), Record player (The drive system), **Quartz** fibre Space exploration (Returning to the earth), So:135 Quartz heater Heating (Room heaters), H:128 Quartzite (mineral), Q:9 Rock (Metamorphic rock), R:309 with picture Quasar [astronomy], Q:9 Astronomy (Astronomy terms), A:688; (Galaxies and quasars) A:691 Radio telescope, R:88 Red shift, R:174 Telescope (Radio telescopes), T:114 Universe (Size of the universe), U:265 Quasimodo, Salvatore (Italian poet), Italian literature (The 1900's), 1:446 Quaternary ammonlum compound **Idisinfectanti** Disinfectant, D:199 Quaternary Period Australia (Cenozoic Era), A:767 Earth (The Cenozoic Era), E:28; diagram onE:30 Quayle, Dan (American political leader), Q:9 with portrait Queanbeyan [Australia], Q:10 Quebec [city], Q:10 with picture New France (Colonial life), N:113 Quaries, Benjamin Arthur | American Quebec (province), Q:10 with picture

Canada, C:71 with picture

Quebec, Battle of, Q:11

Queen's evidence [law], Q:12

Hogg, James, H:242

Queen's Wake, The [poetry by Hogg]

Wolfe, lames, W:286 with picture Oneensherry Rules 0:12 Ouick bread Bread B:548 with picture Boxing (From bare knuckles to gloves). Quebec Act. The [Canadian history] Canada, History of, C:99 R-49R **Ouick-freezing** Intolerable Acts. 1:299 Queensberry, Marquis of, Q:12 Food, Frozen, F:302 Quebracho [tree], Q:11 Queensberry, Marquess of (British **Ouicklime** Quechan Itribel sportsmanl. 0:12 Lime [chemical], L:279 Indian, American (Indians of the Boxing (From bare knuckles to gloves), Oxide, 0:536 Southwest), k161 R-498 Ouicksand, 0:29 Ouechua [language] Oueensberry Rules, 0:12 Outcksilver Bolivia (Language), B:426 Queensferry [Scotland] See Mercury lelementl Ecuador (People), E:68 Firth of Forth, F:150 **Quietism** [philosophy] Inca (Communication and learning). **Queensland and Northern Territory** Fénelon, François de Salignac de la 1.50 Aerial Services Mother, F:51 Lima (The city), L:277 See Oantas Ouill Peru (Languages), P:308 Queensland (Australia), O:13 with pic-Animal picture on, A:402 Races, Human (Evolutionary theory), tures and maps Feather (Kinds and parts of feathers). R:43 See also list of Related Articles F:41 Queen lentomology Australia, History of (Land reform). Pen (History), P:251 Bee (The honey bee colony), B:184 A:808; (The strikes of the 1890's) Quill (volcano) with pictures (Division of labour) Saint Eustatius, S:32 B:189: (Growth of the gueen) Rain shadow area, R:119 Ouiller-Couch, Sir Arthur British pov-D:187 Selection acts. S:243 elistl. O:29 Wasp (Group life), W:64 Squatters in Australia, So:252 Oullling **Queen ltitle!** 0:11 Queensland blue heeler Paperwork (Paper handicrafts), P:138 Address, Forms of, A:40 Australian cattle dog, A:844 Quilt. 0:29 with picture See also Kings and gueens of Britain Hobby picture on, H:237 and Ireland; individual queens, Weaverbird, W:123 Quince, Q:29 with picture such as Elizabeth II Quemoy lisland group!, 0:27 Pear (How pears are grown), P:232 **Oueen angelfish** Quentin Durward [book by Scott] Ouinidine [drug] Fish picture on, F:162 Scott, Sir Walter (The Waverley nov-Ouinine, 0:30 Queen Anne style els), S:175 Oulnine idrugi. 0:30 Furniture picture on, F:501; F:503 Querétaro [Mexico], 0:27 Plant (Medicines), P:542 Queen Anne's Bounty, 0:12 Quesnay, François [French economist]. South America (Plants), So:96 Queen Anne's lace [plant] Sydenham, Thomas, So:504 Wild carrot, W:248 with picture Physiocrats, P:480 Tree (Other tree products), T:373 Queen Anne's Revenge [ship] Quest for Adventure book by Boning-Quinoa (grain) Blackbeard, B:378 Bolivia (Food), B:427 Queen consort Bonington, Chris, B:449 **Ouintet** Queen, 0:11 **Question mark** Classical music (Chamber music), Queen dowager Punctuation, P:856 Ci:561 Queen, 0:11 Question of Upbringing, A (book by Quintilian (Roman orator), Q:30 Queen Elizabeth 2[ship] Latin literature (The Imperial Period), Powelll Ship (Ocean liners), S:376 Powell, Anthony, P:731 Queen Elizabeth [ship] Ouestionnaire Oratory (Classical orators), 0:484 Ship (Ocean liners), S:376 Public opinion poll (Designing the **Quintilis** Imonth Queen Mary [ship] questionnaire), P:840 Calendar (The Romans), C:35; (The Ship (Ocean liners), \$:376 Sociology (Surveys), So:12 Julian calendar) C:36 Queen Mary's dolls' house Quetta [Pakistan], Q:27 July, J:162 Dolls' house picture on, D:250 Quetzal [bird], Q:27 Quintillion [number], Q:30 Queen mother Quetzal [money], Q:27 with picture Quintuplets, Q:30 Queen, 0:11 Quetzalcóatl Multiple birth, M:693 Royal Family of the United Kingdom, Aztec (Religion), A:899 **Quintus Servinton** [book by Savery] Australia, Literature of The develop-Mexico (The Toltec and the Aztec), Queen of Air and Darkness, The M:418; (The Spanish conquest) ment of the novel), A:830 (book by White) M:410 Quipu White, T. H., W:232 Inca (Communication and learning), Montezuma II, M:577 Queen parrotfish Mythology (American Indian mythol-Parrotfish, P:202 with picture Indian, American (Writing), 1:149 ogy), M:763 with picture Queen regnant Orozco, José Clemente picture on, Quirinal Hill [!taly], Q:30 Queen, Q:11 0:505 Quirinal Palace [Italy], Q:30 Queen, Ellery (literary figure), Q:12 Quirino, Elpidio [Filipino political Quevedo, Francisco de (Spanish hu-Queen's Awards for Export and Techmanisti, 0:27 leaderl, Q:30 Philippines, History of the (The Philip nology, Q:12 with picture Spanish literature (The 1600's), So:194 Queens [New York City] Quezon, Manuel Luis, Q:27 pines under Quirino), P:413 New York City, N:146 Quirinus [Roman mythology], Q:30 Philippines, History of the (Social and Queen's birthday, Q:12 Quirós, Pedro Fernandez de Porcultural changes), P:409 with pic-

ture

Quezon City, Q:28

Quezon City [Philippines], Q:28

tuguese navigatori, Q:31 Quisling, Vidkun Abraham Lauritz

[Norwegian traitor], Q:31

Russian composer, R:50 with por-

567

Norway (World War II). N:301 Oult India Movement, 0:31 Outto Ecuadori, Q:31 with picture Fauador, E:67 with picture Fountor (The equatorial climate), E-314 iatin America picture on, L:84 Oulxote, Don See Don Quixote Oumran (region, Israel) Dead Sea Scrolls. D:54 Ouo Vadis (book by Sienklewicz) Sienklewicz, Henryk, \$:412 Ouo Vadis (musical composition by Dyson, Sir George, D:366 Quoits (game), O:31 (wokka lanimal), 0:31 Kangaroo, K:186 with picture Quol lanimal) with picture Native cat, N:46 Ouorum Inumberl, O:31 Parllamentary procedure (Holding meetings), P:195 immigration (Immigration policies). International trade (Government trade policies), 1:297 Preferential voting, P:741 Quota International, O:31 Quotation marks Punctuation, P:856 Quotient (mathematics) Division (Writing division), D:210 Factor, F:4 Quran (religion), Q:32 with pictures Islam (Teachings of Islam), 1:414 Ottoman Empire (People), O:519 Painting (Islamic painting), P:50 Sunnis, So:426 Quran [religion]

E-MAR Marsupial (Kinds of marsupials), M:228 Satire, S:99 Rebit Limonthi Rahi II (month) Rabies [disease], R:39 P:212 Quarantine, 0:7 ture Fiji (History), F:78 Arabic literature, A:488 (waqwa (South Africal, Q:34 Free State, F:430 Races, Human, R:42 World, W:324 **Race horse** Race relations Riletter), R:35 with pictures R-7 (missile) Racism, R:51

Address, Forms of, A:41 Judaism, k155 Rabbit, R:36 with pictures and map Animal (Introduction of new species). A:413 Conservation (Australasia), Ch303 Easter (Eggs and rabbits), E:44 lack rabbit. 1:3 with picture Myxomatosis, Mt766 Rabbit fever Tularaemia, T:436 Rabe, David [American playwright] American literature (Drama), A:321 Rabelals, François (French author), French literature (The renaissance). Humanism (The arts), H:363 Gargantua and Pantagruel, G:44 Veterinary medicine, V:352 (The Yom Kippur War) 1:439 Middle East picture on, M:457 See Sholom Aleichem Animal picture on, A:395 human beings), P:756 Horse (Life history), H:294 Horse racing, H:306 with pictures Race relations laws, R:41 Washington, Booker T., W:52 Race relations laws, R:41 Race riot

Tracedy, T:335 Calendar (The Islamic calendar), C:35 Racing, R:51 See also list of Related Articles Calendar (The Islamic calendar), C:35 Racing boat Motorboat racing, M:650 with pic-Pasteur, Louis (His work in medicine). tures Racing Through Paradise: A Pacific Passage (book by Buckley) Buckley, William F., Jr., B:611 Rabin, Yitzhak [israeli], R:40 with pic-Racism. R:51 See also list of Related Articles Israel (Recent developments), I:440; Rack [torture], R:52 Rack-and-pinion gear Car (Control systems), A:131 with dia-Rabinowitz, Solomon gram Gear (Types of gear), G:68 Rabuka, Sitiveni (Fijian political leader) Racket ball indian, American (Recreation), 1:139 Raccoon [animal], R:40 with picture Rackham, Arthur English artistl, R:53 Raccoon butterfly fish with picture Racovian Catechism Raccoon dog, R:41 with picture Unitarians, U:38 Racquet (sports) Prehistoric people (The rise of modern Badminton (Playing), B:24 with picture Squash, So:246 with picture Tennis, T:143 with picture Racquetball, R:53 with pictures Rad (unit of measure) Cosmic rays (Effects of cosmic rays), Cl:371 Ion (Producing ions), 1:326 Radar, R:54 with pictures See also list of Related Articles Navigation, N:54 Riot (Expressive riots), R:286 Rain (Measuring rainfall), R:115 Warship (Aircraft carriers), W:43 Racecourse Hippodrome, H:218 Horse racing, H:308 Radar altimeter Raceme (botany), R:41 Altimeter, A:289 Inflorescence, 1:232 with picture Mountain (Measuring mountains), Races, Human, R:42 with pictures and M:670 map Radar map See also list of Related Articles Astronomy picture on, A:693 Blood (In anthropology), B:398 Radar (In scientific research), R:57 with Ethnic group, E:341

Ra-2 |boat Heyerdahi, Thor, H:189 Rabat [Morocco], R:36 Morocco, M:611 with picture Rabaul [Papua New Guineal, R:36 Bismarck Archipelago, **B:370** New Britain, N:107 World War II (The South Pacific),

Space exploration (The first artificial

satellites), So:141 Ra [Egyptian god]

See Re

Ra [symbol]

Radium, R:92

Minority group, M:499 W-207 Racism, R:51 Rabbi ftitle), R:36 World, W:317 Rachel (Biblical figure). R:50 lacob. E8 loseph (The prime minister), 1:147 Rachmaninoff, Sergel Vassilievich Racial group See Ethnic group Racial segregation Anartheid, A:469 Segregation, S:239 Racine, Jean [French dramatist], R:51 Age of Reason (The orderliness of na-Drama (French neoclassical drama).

D-794 French literature (Classical drama). F-447 cism), R:360

ture). A:157

Romanticism (The qualities of romanti-

Table tennis (Equipment), T:3 with pic-

Weather (Observation stations), W:118

H:125 with picture

Radical (chemistry), R:72

Radical Chic & Mau-Mauing the Flak Radio observatory pictures Observatory, 0:381 Catchers [book by Wolfe] Weather picture on, W:110 Radio radiation Wolfe, Tom. W:288 Radar mapping lupiter, k171 Telescope (How radio telescopes Radical mastectomy Surgery (Some common surgical oper-Radio remote control work), T:115 Remote control, R:212 ations). So:438 Padar Radical sign [mathematics] Radio signals Electronics, E:184 Radcliffe-Brown, A. R. (British an-Root, R:394 Navigation (Electronic navigation). Radicalism [political philosophy], R:72 N-54 thropologist), R:63 Radio station Radicle (botany) Radcliffe, lames Radio, R:74: (Stations and networks) Derwentwater, Earl of, D:129 Germination, G:141 Radio, R:73 Radcot Bridge [England] Radio telescope, R:88 with pictures See also list of Related Articles Oxfordshire (Places to visit), 0:534 Astronomy picture on, A:691, A:693 Advertising, A:62 Radhakrishnan, Sarvepalli (Indian phi-Life (The search for life on other plan-Africa (Communications), A:147 losopherl. R:63 with picture ets), L:250 Citizens band radio, Ci:14 Radial symmetry Lovell, Sir Bernard, L:406 Flying Doctor Service, F:280 Echinoderm, E:52 Flower (The parts of a flower), F:261 France (Communication), F:411 National Radio Astronomy Observa-Radian (unit of measure), R:63 with dialournalism, J:150 tory (NRAO), N:44 Magnetic storm, M:53 Observatory (Radio observatories), Radiant energy Marconi, Gualielmo, M:201 O:381 Telescope, T:114; pictures on T:116 Sun (The sun's heat), So:410 Public opinion, P:838 Public opinion polls (Who uses polls?), Radio transmitter Radiant heating Heating, H:126 with picture P:039 Pedal wireless, P:241 Radiant Way, The [work by Drabble] Rock music (Growing popularity), Radio wave Astronomy (The development of radio Drabble, Margaret, D:278 astronomy), A:699 Radiata pine, R:63 Space exploration (Communicating Cellular telephone, C:306 Radiation-absorbing glass with the earth), So:138 with pic-Electromagnetic waves (The electro-Glass (Kinds of glass), G:190 ture Walkie-talkie, W:22 magnetic spectrum), E:176 Radiation belt Frequency modulation, F:455 Jupiter (Radio radiation), 1:171 Radio, Amateur, R:87 with pictures Light (Electromagnetic waves), 1:259 Space exploration (The beginning of Radio astronomy Magnetic resonance imaging, M:52 space). So:130 Astronomy (The development of radio Van Allen belts. V:305 astronomy), A:699 with pictures Jansky, Karl Guthe, J:29 Radiation, R:64 Maser, M:241 See also list of Related Articles Jodrell Bank Observatory, J:122 Microwave, M:443 Physics (Developments in the 1800's), Astronomy picture on, A:692 National Radio Astronomy Observa-Cancer, C:121 tory, N:44 P-476 Energy (Forms of energy), E:245 Radio telescope (How a radio tele-Опазаг. 0:9 Radio (From electric waves to radio Fallout, F:16 scope works), R:88 Heat, H:118 with diagram Ryle, Sir Martin, R:510 waves), R:78 Radio telescope, R:86 with diagram Heating (Heat transfer), H:125 Radio beacon Sun (Solar radiation), So:419 Ion (Producing ions), 1:326 Beacon, B:164 Telescope (Radio telescopes), T:114; Radioactivity (Kinds of radiation), R:87; Navigation (Radio direction finding). (Emission of radiation) R:88; (Dan-(How radio telescopes work) N:54 gers of radiation) R:89 T:115; picture on T:116 Radio-control Space exploration (Living in space), Ultrahigh frequency waves, U:17 Aeroplane, Model (Radio control mod-So:135; (How a space probe carelsl. A:107 Radioactive decay ries out its mission) So:142 Atom (Radioactivity), A:726 Car, Model, C:178 with pictures Isotope (Radioactive Isotopes), 1:427 Radiation detector Remote control (Kinds of remote con-See Geiger counter trol), R:212 Nuclear energy, N:321 Radium (How radium forms and Radio direction finding Radiation fog [weather] breaks down), R:93 Fog. F:284 Navigation, N:54 Transmutation of elements, T:344 Radiation sickness, R:72 Radio Free Europe/Radio Liberty Fallout (The fallout hazard), F:18 (RFE/RL), R:88 Radioactive lodine Ion (Producing ions), 1:326 Propaganda (The cold war), P:807 Goitre, G:229 Nuclear energy, N:318 Radio ham Radioactive isotope Radiation therapy Atom (Radioactivity), A:726 Radio, Amateur, R:87 with picture Fossil (Dating fossils), F:373 Cancer, C:122 Radio image Radiation-transmitting glass Astronomy picture on, A:693 Isotope, 1:427 Glass (Kinds of glass), G:190 Radio interferometer Nuclear physics, N:332 Radiation Observatory (Radio observatories), Nuclear reactor, N:332 Radioactivity (Half-life), R:88; (Uses of Environmental pollution (Hazardous radioisotopes) R:89 waste), E:305 Telescope (Types of radio telescopes), Radioactive Substances and Thelr Radiator, R:72 T:115; picture on T:116 Radiations (book by Rutherford) Car (The cooling system), C:156 Radio navigation Rutherford, Ernest, R:505 Heating (Central heating systems), Aeroplane, A:103 Radioactivity and the Measurement

Radio network

Radio (Stations and networks), R:79

of Geological Time book by

United States, History of the (Distribu-Isotope (Radioactive isotopes), 1:427 Carlogy (Experimental geology), G:93 tion and communication). U:253 Pitchblende, P:524 Radon, R:93 Radioactivity Radius (anatomy) Atom. A:726 Curie, Marie Sklodowska, Ch501 Arm. A:576 with diagram Flbow, E:136 with diagram Curie, Pierre, Ch:501 Geiger counter, G:69 with diagrams Wrist, W:421 with picture Physics (The beginning of modern Radnorshire (Wales), R:93 physics), P:476; (Physics today) Radon lelementl, R:93 Raeburn, Sir Henry (Scottish painter), P:478 R:94 with picture Plate tectonics (Maintaining tectonic Rafferty, Chips |Australian film actor), activity), P:586 Q IQA Padiation R:64 Raffia [fibre], R:94 Radiocarbon. R:90 Raffla nalm Radinchemistry, R:91 Palm (The leaves), P:106 Radionenlogy, R:91 Raffles (book by du Maurier) Headinactivity and fissionabil-Du Maurier (Sir Gerald du Maurier), ity), U:273 0:344 Adjocarbon, R:90 Raffles (book by Hornung) Archaeology (Dating), A:503 Hornung, E. W., H:283 Cosmic rays (Effects of cosmic rays), Raffles, Sir Stamford British merchantl. R:94 with picture Radiogeology, R:91 Singapore (The arrival of Raffles), Radiocarbon dating S:446 with picture Archaeology (Dating), A:503 Rafflesia (plant), R:94 Evolution (The fossil record), E:409 Brown, Robert, B:592 New Zealand, History of (The founding Rafsanjani, Ali Akbar Hashemi ipresiof Aotearoa), N:164 dent of Iran), R:95 Radiocarbon, R:90 with diagram Iran (Iran today), 1:340 Radiogeology, R:91 Raft (boat), R:95 with picture Shroud of Turin, S:404 Rafting, R:95 with picture Radiochemistry, R:91 Rag rug Science (The physical sciences), 5:140 Rugs and carpets (History), R:452 Radiogeology, R:91 Radiography Ragian [Wales] Gwent (Places to visit), G:437 Ballistics (Terminal ballistics), B:59 Ragnarok [Norse mythology] ladiolsotope Balder, B:38 See Radioactive isotope Mythology (The end of the world), ladiolaria. M:761 Ooze, 0:454 Odin. 0:411 Protozoan (Sarcodines), P:819 Thor, T:225 Radiological warfare Ragtime (music), R:96 Chemical-biological-radiological war-Jazz (The roots of Jazz), 3:74 fare, C:365 Ragweed, R:96 with picture Ridiology, R:91 Ragwort, R:96 Magnetic resonance imaging, M:52 Raindrop Rahula (son of) with picture Buddha (Birth and early life), B:613 Medicine (The specialities), M:311 Raikes, Robert (English publisher), R:96 ladiometer Rail (bird), R:96 with picture Gookes, Sir William, Ch452 Radionuclide Imaging Rail (railway) Railway (Tracks), R:100 Heart (Symptoms and diagnosis), Rainfall Railcar Radiosonde (instrument), R:92 with pic-Railway, R:100 fitte Railroad Air (The study of air), A:188 See Railway Railway, R:97 with pictures Balloon (Scientific uses), B:62 See also list of Related Articles Radiotherapy Africa (Transportation), A:147 Cancer (Radiation therapy), C:122 Disaster (Accidents), D:188 Electronics, E:184 France, picture on, F:410

Industrial Revolution, picture on, **£217**

Locomotive, L:352 with pictures

O'Connor, C. Y. (Railway expansion),

Queensland (Transport and communi-

Monorail, M:569 with pictures

0:405

cations), Q:24

Stephenson, George, So:317

Railway, Model. R:113 with pictures Railway telegraph Woods Granville T. W:306 Railway track Railway (Tracks), R:100 Rain, R:115 See also list of Related Articles Acid rain, A:24 Dust (Importance to human beings). D:357 Famine (Too much rainfail), F:24 India (The rainy season), I:72 with map Irrigation, 1:405 Rain dance, R:118 Indian American (Shamans, priests, and prophets), 1:148 Rain forest See Tropical rainforest Rain gauge, R:119 with picture Rain (Measuring rainfall), R:115 Weather (Development of weather forecasting), W:122 Rain Man ffilml Film industry (Best picture), F:96; picture on F:108 Hoffman, Dustin, H:240 Rain shadow area, R:119 Rain Shower on Ohashi Bridge plcture by Hiroshigel Hiroshige, H:221 with picture Rain tree, R:119 Rainbow, R:119 with pictures Colour (The relation between colour and light), Cl:192 Rainbow darter [fish] Darter, D:37 Fish picture on, F:166 Rainbow trout Fish picture on, F:166 Fishing (Game fishing), F:185 Rainbow Warrior [ship], R:120 Greenpeace, G:363 Rainbow (ship) Clipper ship, Cl:84 Rain, R:115 Rainbow, R:119 with picture and diagrams Raindrop horse Horse (Appaloosas), H:289 Famine (Causes of famine), F:24 Rain gauge, R:119 Rain (Measuring rainfail), R:115 River (The source of a river), R:289 Rainforest See Tropical rainforest Rainler III (prince of Monaco), R:120 Kelly, Grace, K:213 Monaco (History), M:540

Royal families (Monaco), R:419

Rainmaking, R:121 with picture

Rain (What causes rain?), R:116

Weather (Attempts to control the

Rainier, Mount

See Mount Rainier

Contrail, Ci:318

H:341 Radium, R:93

plorer], R:93

Curie, Marie Sklodowska, Ci:501

Medicine (Treatment), M:307

Radisson, Pierre Esprit [French ex-

Hudson's Bay Company (Beginnings),

Radish, R:92 with picture

Exploration (table), E:424

Ship (Phoenician and Greek ships),

S:365

Ram, Hydraulic

Ramos. Fidel Valdez (Filipino politica) Lift (How lifts work), L:254 weather). W:122 leaderl. R:132 with picture Rainy Night [painting by Burchfield] Ram Mohan, Roy Indian religious Philippines (Fidel Ramos elected). leaderl Burchfield, Charles Ephraim picture See Roy, Ram Mohan on. B:648 Ramo [plant], R:132 Rama, R:128 Raisin [food], R:121 Rampolla, Mariano Cardinal litalian Rama I (king of Thailand) Grape (European grapes), G:297 religious leaderl, R:132 Bangkok, B:80 Ralta [food] Ramsar Convention Thailand (A new dynasty), T:184 India (Food), I:65 Bird (Protective laws and treaties) Rama II (king of Thailand) Rajab (month) R-355 Bangkok, B:80 Calendar (The Islamic calendar), C:35 Ramsay, Allan (Scottish poet) Rajagopalachari, Chakravarti [Indian Rama III (king of Thailand) Scotland (The arts), S:162 political leader), R:122 Bangkok, B:80 Scottish literature (1700-1800), \$476 Rajah [title], R:123 Rama IV (king of Thailand) Ramsay, Allan |Scottish portrait Bangkok, B:80 India, Art of (Mughal painting), 1:88 painterl, R:132 Thailand (A new dynasty), T:184 with picture Scotland (The arts), S:162 Rama V [king of Thailand] Rajaraja I. [rujer], R:123 Ramsay, Sir Bertram Home [admiral], Bangkok, B:80 Rajasthan [India], R:123 with pictures Thailand (A new dynasty), T:184 and map Ramsay, Sir James [Australian gover-Rama VI [king of Thailand] Rajasthani India, Languages of (Modern Indo-Bangkok, B:80 norl, R:132 Ramsay, Sir William (Scottish chemist). European languages), I:123 Ramadan (month), R:128 Rajatarangini (book by Kalhana) Calendar (The Islamic calendar), C:35 Fast. F:33 Air (The study of air), A:188 Jammu and Kashmir (History), J:27 Raikot Food (Religious reasons), F:297 Helium, H:143 Gujarat (Places to visit), G:422 Islam (Customs and ceremonies), I:415 Krypton, K:336 Ramakrishna [Indian religious leader], Neon, N:73 Raiput Nobie gas, N:237 lammu and Kashmir (History), J:27 R:120 Ramsden eyepiece Raiva Sabha (government) Raman, Sir Chandrasekhara Venkata India, Government of (Parliament), 1:96 [Indian physicist], R:128 Ramsden, Jesse, R:132 Ramsden, Jesse (British instrument Rake limplementl, R:127 with picture Raman effect [physics] Rake's Progress, A (painting by Ho-Raman, Sir Chandrasekhara Venkata, makerl, R:132 Ramses II [king of ancient Egypt], R:132 R:128 Hogarth, William, H:241 Ramanuia (Indian philosopher), R:129 with picture Abu Simbel, Temples of, A:17 Rake's Progress, The [ballet] Ramanujan, Srinivasa (Indian mathe-Cairo (Description), C:16 De Valois, Dame Ninette, D:144 maticianl, R:129 Egypt, Ancient (The New Kingdom), Rake's Progress, The lopera by Stra-Ramaphosa, Cyril South African politivinsky] cal leaderl, R:129 E:129 Embalming (Ancient embalming), Auden, W. H., A:738 Ramapithecus, R:129 Stravinsky, Igor (Neoclassical works), Human being (Prehuman ancestors). F:225 So:350 H:346 Hittites (History), H:232 Rakha, Alla [Indian musician] Ramayana (Indian epic) Mummy, M:699 Sculpture (Egyptian), S:196 India, Literature of (The Vedas), 1:124 India, Dance and music of (History), Ramsey, Arthur Michael Ramayana [poem], R:129 Raki (drink) See Ramsey, Lord Goa (History), G:220 Ramsey, Lord British religious leader, Turkey (Food and drink), T:458 Hinduism, H:214 Rákosi, Matthias (Hungarian political Vishnu, V:409 Anglicans (Christian unity), A:368 leader Wayang, W:107 Ramsey, Sir Alfred English footballer, Hungary (Communist Hungary), H:383 Rambert Dance Company Raleigh, Sir Walter [English explorer], Ballet (Ballet in Europe), B:57 R:127 with portrait Ramsgate [England], R:133 Rambert, Dame Marie | Polish-born Colonial life in America (Early settleballerinal, R:131 Ramus [anatomy] Ballet (Ballet in Europe), B:57 Mandible, M:150 ments), Cl:178 Rana [Nepalese political leader] Elizabeth I (Spanish Armada), E:213 Rambier, The [work by Johnson] Gilbert, Sir Humphrey, G:157 Nepal (History), N:77 Johnson, Samuel, 1:134 Rambutan [tree], R:131 with picture Lost Colony, L:394 Ranakpur [India] Rajasthan (Places to visit), R:126 Shakespeare, William (The anti-Rameau, Jean-Philippe [French com-Stratfordians), S:303 poser], R:131 Ranch United States, History of (The Colonial Opera (French opera), 0:464 See Ranching heritage), U:238 Rameau's Nephew [book by Diderot] Ranchi (India) Bihar (Places to visit), B:290 Ram [animal] Diderot, Denis, D:167 Ranching, R:133 with pictures Sheep (The body of the sheep), \$:338 Rameses II Western frontier life, W:187 Ram [tool] See Ramses II Extrusion, E:434 with diagram Ramesvaram [india] Paraguay (Way of life), P:162 Ram [weapon] Tamil Nadu (Places to visit), T:22 Venezuela (Ways of life), V:328 with Battering ram, B:153 with diagram Ramie [plant], R:131 Galley, G:16 Ramiet picture Rand Corporation (research organiza-

Aeroplane (jet engines), A:95

Jet propulsion, J:106 with diagram

Ramlee, P. [Malaysian singer], R:131

tion], R:134

Randolph (ship)

Convicts in Australia (End of transpor-M:55 Buttercup, B:679 Rare earth oxide tation in the east). Ci:324 Ranvier, Node of [anatomy] tandom Harvest [book by Hilton] Fluorescent lamn F:274 Nervous system (Conduction along the axon). N:84 with diagram Rarofaction Hilton, James, H:205 Sound (The nature of sound). So:47 Rao. Narasimha (Indian politica) random motion Inn (Behaviour of ions), 1:326 with diagram leaderl, R:136 Ras Tafari landom sample Ran (music) Haile Selassie I. H:9 Public opinion poll (Selecting the sam-Popular music (Pop music), P:683 Rastafarians, R:140 Rock music (New directions and old). ple). P:840 Rash idisorderl Statistics (Sampling), So:304 Dermatology, D:128 random-access memory (RAM) Rap music, R:137 Lunus, L:417 Flectronics (How electronic circuits Rapanui (language) Measles, M:292 Easter Island, E:44 process information). E:190 Scarlet fever, S:123 Rape (administrative region), R:137 landomized controlled experiment Rasn, Charles [Australian settler], R:139 Statistics (Collecting the data). So:302 Rape (crime), R:137 Broken Hill. B:584 Abortion (Arguments for abortion), Raspberry [plant], R:140 with picture A:14 lude (lude centests), 1:160 Rasne, Rudolph Erich Rane Inlanti, R:137 with picture Paney nickel See Munchausen, Baron Rape crisis centre Hydrogenation, H:406 Rasputin, Grigori Efimovich Russian Rane, R:137 Ranfurly Shield public figure], R:140 with portrait Rape of Europa, The [painting by Ti-Rugby football (Organization), R:445 Resselas, Prince of Abyssinia [work by Rangala (Indian writer) lobrison Painting (Venetian painting), P:60 with India Literature of (The birth of nation-Johnson, Samuel (Later years), J:134 picture alism), 6:128 Rastafarians, R:140 Titian. T:266 Range (cooking) West Indies (Religions), W:166 Rape of Ganymede painting by Rem-See Cooker Rastatt, Treaty of brandtl Range [mathematics] Succession wars (The War of the Rembrandt (Early Amsterdam years), Algebra (Functions), A:257 Spanish Succession), So:378 R:210 Range (zoology) Rat [animal], R:141 with pictures Rape of Lucrece, The Ipoem by Shake-Bird (The distribution of birds), B:319 Rat Islands spearel Range Instrumentation Aleutian Islands, A:242 with map Shakespeare, William, 5:322 (His first Radar, R:56 Rat kangaroo poems) \$:301 Range war Kangaroo, K:186 with picture Rape of Lucretia. The [work by Britten] Ranching (History), R:134 Rata vine, R:142 Britten, Benjamin, **B:582** Rangefinder, R:135 Ratana (religious movement), R:142 Rape of the Lock. The ippem by Popel laser (Measuring), L:71 Maoris (Maori religion), M:181 Pope, Alexander, P:680 Photography (Rangefinder cameras), Ratapoil (sculpture by Daumier) Raphael (Italian painter), R:136 with pic-P4449 Bronze picture on, B:588 tangefinder camera Daumier, Honoré, D:43 Ark of the Covenant picture on, A:576 Photography, P:449 Ratchet, R:142 Classicism (The qualities of classicism), Ranger [ship] Rate of change [mathematics] Aircraft carrier (The modern carrier Calculus (Differential calculus), C:25 Europe (The arts) picture on, E:369 fleet), A:205 Rate of exchange Jones, John Paul, J:139 Julius II, 1:161 See Exchange rate Madonna and Child (Painters of the Rangerispacecraft Ratel lanimall, R:142 with picture Madonna), M:34 et Propulsion Laboratory, J:107 Badger, B:23 Painting, P:58 with picture Moon (table), M:595 Rates [taxation] Plato picture on, P:590 Rangers [military], R:135 Property tax, P:809 Renaissance (The fine arts), R:217 with langoon (Burma), R:135 with picture Rathbone, Eleanor Florence (British Burma, B:656 with picture picture social reformerl, R:143 Tapestry (History), T:40 with picture Ranjit Singh (Indian ruler), R:136 Rating [psychology] Transfiguration, T:339 Personality (Ratings and self-reports), Skhism, S:416 ^{Rank}, Joseph Arthur Rapid PAHH River (The channel of a river), R:289 See Rank, Lord Ratio [mathematics], R:143 Rapid Deployment Force [U.S. mililank, Lord (British film industry figure), Arithmetic (Measuring and comparing tary], R:139 R:136 quantitles), A:572 Ranke, Leopold von (German histo-Rapid eye movement Fraction, F:383 Dream (The biology of dreams), D:305 rian], R:136 Proportion, P:809 Trigonometry (Right-angled triangles), History (Modern times), H:226 Narcolepsy, N:25 Rankin, Dame Annabelle |Australian Rapids T:401 River (The channel of a river), R:289; Rational number (mathematics), R:143 political leader), R:136 Rann of Kutch diagram on R:291 Decimal system (Decimals and frac-Gujarat (Land features), G:422 Waterfall, W:93 tions), D:70 Rapparees [irish marauders], R:139 Ransom Fraction, F:383 Kidnapping, K:244 Rara |festival| Rationalism, R:143

Haiti (Culture), H:16

Rare earth element

Rare earth [chemistry], R:139

Magnetism (Permanent magnets),

French literature, F:445

losophy) P:424

Philosophy (table), P:421; (Modern phi-

Rensome, Arthur (British authori, R:136

Cyst, C1:515

Ranunculus [plant], R:136

King, Martin Luther, Jr. (King's death),

Ray, John (British naturalist), R:147

Classification, Scientific (Development gold). N:171 Rationing, R:143 of classification). Ci:68 Read, Mary Black market. B:376 Pirate (Pirates of the Caribbean and Ray, Satvailt [Indian film director]. Phillip, Arthur (The colony's early other areas). P:520 0.147 years), P:417 Read. Sir Herbert (British scholar, poet. Rayleigh, Lord (British physicist) World War II (Government controls). and criticl, R:149 Air (The study of air), A:188 wana Read-only memory (ROM) [electronics] Argon, A:565 Ratkiller. The letching by Rembrandtl Computer (File storage devices) Earthquake (How an earthquake Rembrandt picture on, R:210 CE260 spreads), E:34 Ratnavali iplay by Harshal Readability Nobel Prize (table: for Physics, 1904), Harsha, H:69 Reading, R:152 Ratoff, Gregory [British author] N:226 Reade, Charles English authori, R:149 Noble gas, N:237 Kennedy, Margaret, K:218 Sound (Recent developments), So:54 Reading, R:150 with pictures Rats, The [play by Hauptmann] See also list of Related Articles Rayleigh wave [physics] Hauptmann, Gerhart, H:78 Earthquake (How an earthquake Why we read literature, L:309 Rats of Tobruk [World War II]. R:144 Reading England, R:149 spreads). E:34 with diagram Ratsiraka, Didier [Madagascan ruler], Rayon [fibre], R:147 with diagram Berkshire (Local government), B:245 Reading, Marquess of [British political Chardonnet, Hilaire, C:349 Rattan itree productl. R:144 leaderl, R:159 Fibre (Regenerated fibres), F:67 Rattan palm Readings for Children (book by Textile (table), T:170: (Manufactured Palm (Kinds of palms), P:106 Topelius Rattigan, Sir Terence (British dramafibres) T:170: (The age of modern Topelius, Zachris, T:299 tistl. R:144 with portrait textiles T:176 Read-only memory (ROM) Rattlesnake, R:144 with pictures Raza, S. H. Electronics (How electronic circuits Animal (Adaptations for sensing the India. Art of (The colonial and modern process information), E:190 environment). A:401: picture on periods), 1:89 Razivah, Sultana lindian ruleri, R:148 Readout A:402 Instrument, Scientific, 1:267 Snake, S:506 with picture Razor, R:148 with pictures Viper, V:400 Razor clam Ready-to-wear clothing Clothing picture on, Ci:107 Clam picture on, Ci:50 Rattner, Abraham [American painter], Reagan, Ronald (U.S. presidenti, R:159 P:145 Rb (symbol) Communism (The Soviet Union under Rauschenberg, Robert | American art-Rubidium, R:441 Gorbachev). Cl:243 ist), R:145 with picture RCA Satcom (satellite) Disarmament (History), D:186 Rauwolfia serpentina (shrub) Satellite, Artificial (Important satellites), Mulroney, Brian, M:692 with picture Reserpine, R:237 S:96 Qadhafi, Muammar Muhammad al-, Ravel, Maurice [French composer], RDX [explosive], R:149 R:146 Re [Egyptian mythology], R:149 0:2 Space exploration (Alpha), So:157; (The Raven (bird), R:146 with picture Egypt, Ancient (Gods and goddesses), Challenger disaster) So:160 Animal picture on, A:409 E:122; (The New Kingdom) E:128 Reagan's Ruling Class ... [book by Raven, The film Mythology (The Great Ennead), M:754 with picture; (Other Egyptian Karloff, Boris, K:195 Naderl "Raven, The" [work by Poe] divinities) M:755 Nader, Ralph, N:2 Poe, Edgar Allan, P:608 Pharoah, P:357 Real image Lens (Converging lenses), L:174 with Ravenglass (England) Sun (Mythology and sun worship), Cumbria (Places to visit). Ci:496 So:412 diagram Ravenna [italy], R:147 Magnifying glass, M:60 Thoth. T:227 Mirror (Concave mirrors), M:507 Architecture picture on, A:523 Re [symbol] Raven's Wing [book by Oates] Real income Rhenium, R:250 Oates, Joyce Carol, O:376 Reach for the Sky [book by Brickhill] Income, 1:52 Real Life of Sebastian Knight, The Rawlings, Lieutenant Jerry [Chanaian Brickhill, Paul. B:559 political leader! Reactance [book by Nabokov] Ghana (History), G:147 Nabokov, Vladimir, N.2 Ohm's law, 0:419 Rawlings, Marjorie Kinnan (American Real national income Reaction [physics] National income (Determining national novelist), R:147 Motion (The third law), M:647 Rawlinson, Sir Henry (British historian). Rocket (How rockets work), R:317 income), N:35 R:147 Reaction, Chemical Real property Rawsthorne, Alan (British composer), Conveyancing, Cl:318 See Chemical reaction Law (Property law), L110 R:147 Reactionary Ray [fish], R:147 Conservatism (History), CE:305 Property, P:808 Fish (Sharks, rays, and chimaeras). Reactive dye Real tennis F:156 with picture Dye (Kinds of dyes), D:362 See Royal tennis Skate, S:457 Reactive hypoglycaemia Real wages Wages and hours (Wages), W:2 Stingray, So:326 with picture Hypoglycaemia, H:417 Realism, R:159 with pictures Ray, Debes [Indian writer] Reactor vessel American literature (Realists), A:315 India, Literature of (Contemporary Nuclear energy (Power reactors), Drama (Early realism), D:298 trends), I:129 N:324 with picture France (Realism and naturalism), F:463 Ray, James Eari [American assassin] Reactor, Nuclear

See Nuclear reactor

Read, Gabriel [Tasmanian prospector]

New Zealand, History of (Wool and

French literature, F:449

Idealism, I:26

German literature (The realists), 6:109

Immigration (1850-1900, Gold rushes

talian literature (Romanticism). 1-446 latin-American literature. L:96 Naturalism (Theory of naturalism) Novel, N:311; (The 1800's) N:312 Philosophy (table), P:421; (Oriental philosophy) P:422 Possian literature (The age of realism). R4499 Scandinavian literature (The Golden Age). S:120 Spanish literature (The 1800's), So:195 Pealism [art] Caravaggio, Michelangelo Merisi de, C:185 with picture Courbet, Gustave. Ci:397 Europe (Art since the Renaissance). Painting (Glotto), P:53 with picture; (The Flemish style) P:57; (Realism) P:71 with picture Realism (philosophy) Metaphysics (Universals and particulars), M:379 Philosophy (table), P:421 Posllero Literature, L:315 Realism (the writers attitude) Literature, L:312 Realist poetry American literature, A:317 Realities of American Foreign Policy (book by Kennan) Kennan, George Frost, K:215 Reality Bradley, Francis Herbert, B:506 India, Philosophy of (Seven kinds of reality), 1:133 Parmenides, P:197 Philosophy (Metaphysics), P:420 Realms of Gold, The inovel by Drabble Drabble, Margaret, D:278 Reaming Machine tool (Hole machining), M:16 Reaper (agriculture), R:161 Agriculture (The invention of new farm equipment), A:173 with picture McCormick, Cyrus Hall, M:287 Rear Window [film] Kelly, Grace, K:210 Reason and Romanticism book by Read) Read, Sir Herbert, R:149 Reason, R:161 Age of Reason (The worship of reason), A:156 Philosophy (Logic), P:421; (Modern philosophy) P:424 Rationalism, R:143 Reason, Age of See Age of Reason Reasoning See Logic Reasoning [mathematics] Permutations and combinations, P:286, P:287 Rebab imusical instrument Gamelan, G:25 Indonesia (Arts), I:185

Rebec Imusical instrument) Violin picture on. V:399 Rebecca (book by du Maurier) Du Maurier, Daphne, D:343 Rebecca (Biblical figure) Isaac, **£410** Jacob, ER Rehecca riots R:161 Dyfed, D:364 with picture Rebel. The work by Camus Camus, Albert. C:69 Rebellion Revolution (Kinds of revolution). R:247 Rebellion in the Backlands book by Cuphal Cunha, Euclides da, Cl:498 Latin-American literature (The early 1900's) 1:96 Reber, Grote [American engineer] Telescope (Radio telescopes), T:114 Rebka, G.A. Jr. [American physicist] Relativity (General relativity theory). R:193 Rebozo (clothing) Mexico (Clothing), M:406 Paraguay (Clothing), P:163 Rebus Igamel, R:161 with picture Alphabet (The earliest writing), A:282 Riddle picture on, R:272 Writing (Phonetics), W:423 Rebuttal (debate) Debate, D:62; (Several types of debate) D:62 Recali [psychology] Memory (Measuring memory), M:342 Recapitulation Classical music (The sonata form), Ci:58 Recapitulation [zoology] Haeckel, Ernst Heinrich. H:5 Receipt, R:161 Receiver Distillation, D:202 Refrigeration (The electric refrigerator), R:185 Receiver (communications) High-fidelity system (The tuner), H:196 Radar, R:61 with diagram Radio (How radio programmes are received), R:76; (Short receivers) R:78 Telephone, T:107 with diagram Receiving aerial (radio) Aerial (Receiving aerials), A:69 with pictures Receiving order Bankruptcy, B:95 Receptor Brain (The brain's chemical messengers), B:516 Human body (The peripheral nervous system), H:359 Nervous system (How the nervous system works), N:81 with diagram Perception, P:277 Senses, S:255 with diagram

Taste, T:65 with diagram

Recession [economics], R:161

Economics (Economic stability), E:63

and recession). I:36 Nationalization (Advantages and disadvantages), N:46 United States, History of the (Postwar society), U:260 Recessive gene abnormality Muscular dystrophy, M:716 Recife [Brazil], R:162 Reciprocating engine Engine, E:253 Petrol engine (Kinds of petrol engines), P:331 with picture Reciprocating pump Pump. P:854 Recitative Classical music (Opera), Cl:57 Opera (table), 0:457; (Recitative and Reclining Figure (sculpture by Moore) Sculpture (Figurative form), \$:216 with picture Recognition Memory (Measuring memory), M:342 Perception (Types of perception), P=278 Recognizance [law] Breach of the peace, B:547 Recoil system Machine gun (Operation), M:13 Recollections of Solferino book by Dunant] Dunant, Jean Henri, D:347 Recombinant DNA Genetic engineering (How genes are isolated), G:80 with diagrams; (History) H:81 Heredity (The era of genetic engineering), H:174 Recombination Evolution (How characteristics are inherited), E:407 Heredity (Genetic recombination), H:168 Recommended Dietary Allowances (RDA's) Nutrition (Eating a balanced diet), NAME Reconstruction (U.S. history), R:162 United States, History of the, U:251 Reconstructive surgery Medicine (The specialities), M:311 Surgery (Plastic and reconstructive surgery), So:439 Record of Ancient Matters, The **lbookl** Japanese literature (Beginnings), J:63 Record player, R:163 with picture See also list of Related Articles High-fidelity system, H:196 with picture Record, Gramophone See Gramophone record Recorder [law], R:166 Recorder imusical instrumenti, R:166 with picture Recording Industry Association of

America (RIAA)

Recording industry (Recording indus-

Recording industry (Making a record), R:166 Recovery of function Nervous system (Disorders of the ner-

vous system), N:85 Recreation, R:168 See also list of Related Articles

Camping, C:64 with pictures Game, G:23 Indian, American, 1:139 with picture Library (Providing materials), L:211

Park, P:185 with pictures Play, P:588 with pictures Radio (The golden age of radio), R:81 Reading (Recreational reading), R:151

Safety (Safety in recreation), S:12 Space exploration, So:137: picture on

So:138 Recreational vehicle (RV), R:169

Camping (Caravan and trailer camping). C:65 Recruiting Officer, The play by Farqu-

Farguhar, George, F:28

Theatre pictures on, T:200

Recrystallization Forging, F:361 Marble (Properties), M:197

Metamorphic rock, M:377 Rectal surgery Medicine (The specialities), M:311

Rectangle [geometry], R:170 with diagrams

Geometry (Analytic geometry), G:97 Golden section, G:240

Quadrilateral, Q:4 Rectangular bag

Camping (Sleeping bags), C:65 Rectification

Distillation, D:203 Rectification

Electronics (Terms used in electron-

ics), E:185 Rectifier (electricity)

Electric generator (Uses of DC generators), E:149 Vacuum tube (Kinds of vacuum tubes),

V:298

Rectifler Electronics (Solid-state components), E:189

Rectilinear motion Motion, M:646

Rectum [anatomy] Alimentary canal, A:269 with diagram

Cancer (Colo-rectal cancer), C:119 Colon, Ci:175

Haemorrhoids, H:6 Human hody (The small intestine and large intestine), H:355

Intestine (The large intestine), 1:298 Rectus femoris

Recumbent bike typel Bicycle (Speciality bicycles), B:281

Recurrent nova Nova. N:310

Recuvell of the Historyes of Troye, The book Cayton, William, C:288

Recycled wool

Wool (Types of wool), W:310 Recycling, R:170

Aluminium (Recent developments), A:295: picture on A:290

Conservation (Mineral conservation), Cl:298 with picture

Plastics (Plastics and the environment). Space exploration (Eating and drink-

ing), So:137 Technology (Combating undesirable effects), T:87 with picture

Waste disposal (Uses of solid waste). W:65

Recycling

Environmental pollution (Business and industry), E:306: (Individual efforts) E:308

Red [colour]

Colour (Mixing colorants). Ci:194 with diagram: (Mixing coloured lights) Ci:196 with diagrams

Colour (The relation between colour and light), Ci:192 with diagram Symbol (Symbols with different meanings). So:516

Red Admiral

Red-backed shrike

Butterfly (Brush-footed butterflies). B:682 with picture

Red algae Algae (Other kinds of algae), A:250

Seaweed (Kinds), S:232; picture on 5:231

Bird picture on, B:340 Red Badge of Courage, The book by

American literature (Naturalists), A:315

Red Balloon [painting by Klee] Klee, Paul, K:295 Painting (Expressionism), P:80; picture

on P:82 **Red Baron**

War aces, W:34 with picture

World War I (The war in the air). W:370

Red-bellied black snake Black snake, B:377

Red blood cell

Anaemia (Insufficient production of red blood cells), A:347; (Excessive destruction of red blood cells)

Blood, B:393 with picture Cell (Death of a cell), C:298

Circulatory system (The blood), Cir Haemoglobin, H:5 Haemolysis, H:5 Human body (The blood), H:357 with

picture Photography picture on, P:440 Respiration (Internal respiration).

R:240 Rh factor, R:249 Sickle cell disease, \$:410 with pictures

Red bloodwood (tree) Eucalypts nicture on, E:348 Red hone marrow

Bone (Structure of the bones), B:446 Red-breasted goose Goose (Kinds of geese), G:254

Red-breasted merganser [bird] Duck picture on, D:339

Red Brigades Iterrorist organization Italy (Social problems), 1:471 Terrorism (History of terrorism), T:159 Red cabbage

Cabbage (Kinds of cabbage), C:2 Red cedar See luniper

Red Cloud (American Indian chief) Indian wars (The Sioux wars), 1:176 Red clover

Clover, Ci:114 with picture Red-crested touraco

Touraco picture on, T:311 Red Cross, The (book by Barton) Barton, Clara, B:122

Red Cross. R:171 with pictures Barton, Clara, B:122 Dunant, Jean Henri, D:347

Flag picture on, F:210 Mackinnon, Eleanor, M:20 Nobel Prizes (Peace), N:233, N:234

Red deer, R:173 Animal picture on, A:387

Deer (Asian and European deer), D:82 Wapiti, W:31 Red drum (fish)

Drum [fish], D:324 Red eve [insect]

Cicada (Types of cicadas), Ci:1 Red-flowering gum [tree] Eucalypts picture on, E:349

Red-footed booby Bird picture on, B:336

Red fox Fox, F:377 with pictures

Red gazelle Gazelle, G:66

Red giant star Star (Giants and supergiants), So:284 Star (The birth and death of a star), So:287; (How stars change and

die) So:288 Sun (How long will the sun shine?),

So:413

Red Guard Beijing (History), B:205 China (The Cultural Revolution), C463 with picture

Lin Biao, L:283 Mao Zedong (His leadership), M:173 Shanghai (History), S:330

(Red shift measurement) A:696: Reduction, R:176 Red aum (tree) Eucalypts (Gum trees), E:347 Rednoll R:176 with picture nicture on A:694 Astrophysics A:701 Redshank R:176 See also Sweet gum Wood picture on, W:299 Redskins, The book by Cooper Cosmology, Ci:372 Cooper, James Fenimore, Ci:336 Red hartebeest Galaxy (The study of galaxies), G:11 Redstart R:176 Hartebeest, H:70 with picture Quasar, O:9 Red Harvest (book by Hammett) Universe (Size of the universe), 12:265 Redstart (bird) Animal picture on, A:386 Red-sided garter snake Hammett, Dashiell, H:32 Reducing agent Garter snake, G:46 Red kangaroo Kangargo, K:185 with pictures Hydrogen lodide, H:405 Red snapper Hydrogen (Uses), H:405 Red kangaroo paw [plant] See Snapper Kannaroo paw. K:189 with picture Red-spotted bluethroat Iron and steel (How iron is made). Bird picture on, B:321 Red king crab Red Square [Moscow] Reducing gear Horseshoe crab, H:310 Gear (How gears work), G:67 Moscow picture on. M:625 Red kite (bird) Reduction [chemistry], R:176 Kite. K:290 Russia picture on. R:462 Corrosion, Cl:365 Red-stem filaree (plant) Red Land Electrolysis (How electrolysis works), Envot. Ancient (The land), E:120 Geranium, G:104 E:175 Red stringy bark [tree] Red-legged kittiwake Hydrogen (Uses), H:405 Eucalypts picture on, E:350 Kittiwake, K:293 Magnesium (Properties), M:51 Red supergiant Red-legged partridge Oxidation, 0:535 Betelgeuse, B:263 with diagram Bird picture on. B:340 Reduction (mechanics) Star (Giants and super-giants), So:284 Red Leas (pirate) Transmission (What a transmission Red-tailed hawk [bird] Greaves, Captain, G:330 does). T:341 with diagrams Hawk, H:83 with picture Red Mill, The [work by Herbert] Redwing Red tape [expression], R:174 Herbert, Victor, H:162 Thrush, T:231 Red mulberry See also Bureaucracy Redwood (tree), R:177 with pictures Red tide (oceanography), R:174 Mulberry, M:689 Segunia, S:264 with picture Dinoflagellate, D:174 Red mullet Reed, Candice (Australian public figure) Red-winged blackbird, R:175 Mullet. M:691 Test tube baby (History), T:162 Red-necked phalarope Red wolf Reed, Ishmael [American writer] Wolf. W:285 Phalarope, P:357 American literature (Fiction and other Redhack spider, R:175 Red oats prose), A:320 Oats (The oat plant), O:377 Redbreast Reed, Sir Carol British film director!, See Robin Red ochre R:178 Redbridge (England), R:175 Haematite, H:5 Film industry (Best achievement in di-Red-osier dogwood Redbud recting), F:96 Osler, **O:509** See Judas tree Reed, Waiter American medical offi-Red panda Redcliffe Point Queensland (Early settlement), Q:25 cerl. R:178 Panda, P:128 with picture Reed [plant], R:177 Red pepper Redde (clothing) Reed [weaving] Sri Lanka (People), So:256 See also Capsicum; Cayenne pepper Tapestry (How tapestries are made), Pepper, P:269 Reddish egret [bird] T:40 Egret (Kinds), E:99 with picture Red Petals (mobile by Calder) Weaving (How a loom works), W:125 Redditch [England], R:175 Sculpture (Movement), S:191 picture Reed bunting Redfern, William Australian public figon S:192 Bunting, B:645 Red poli urel, R:175 with portrait Reed organ Redford, Robert [American film actor], Cattle, C:275 with picture Harmonium, H:63 Red River Colony [Canadian history] R:175 with portrait Reed pipe Film industry (Best achievement in di-Canada, History of (Exploration of the Organ (Pipe organs), 0:493 recting), F:96 West), C:99 Reed-Sternberg cell Redgrave, Lynn [British actress], R:176 Selkirk, Earl of, S:245 Hodgkin's disease, H:240 Redgrave, Sir Michael (British actor), Red River Rebellion [Canadian history], R:175 Atoll, A:723 with picture and diagram Redgrave, Vanessa (British actress), Canada, History of (New provinces), Coral (Coral reefs), Ci:347 with picture C:101 Reel Film industry (Best performance by an Red River (film) Fishing (Fishing equipment), F:183 actress in a supporting role), F:97 Hawks, Howard, H:87 with picture Red Robe, The Iplay by Brieux Redi, Francesco Rees, Dai [Welsh golf champion], R:178 Life (The theory of spontaneous gener-Brieux, Eugéne, **B:570** Rees, Lloyd [Australian artist], R:178 Red robin (plant) ation), L:249 Reeve (bird) Spontaneous generation, So:237 Geranium, G:104 Ruff, R:442 with picture Redmond, John Edward (Irish political Red Roses for Me |play by O'Casey Reeve | English history|, R:178 O'Casey, Sean, O:383 [eader], R:176 Reeves pheasant ked salamander Redonda [island] Pheasant (Kinds of pheasants), P:360

Antigua and Barbuda (Land and cli-

mate), A:461

Redox process

Oxidation, O:535

with picture

leaderl, R:178

Reeves, Sir Paul (Maori political

Salamander picture on, S:48

Astronomy (Astronomy terms), A:688;

Red Sea, R:173 with map

Red shift, R:174

Maoris (Maori religion), M:181

Reeves, William Pember [New Zealand political leader New Zealand, History of (The Liberal era), N:172 Referee Basketball (The officials), B:136: picture an B:138 Boxing (Fight officials), B:495 Football, American (The officials), Football, Association (The officials), F:327 with picture Rugby football (The officials), R:443; (The officials) R:445 Reference book Publishing, P:843 See also Almanac; Atlas; Dictionary;

Encyclopedia: Library Reference junction Thermometer (Electrical thermometers), T:215 Referendum, R:178 Election, E:138 Populism (Influence of populism), Switzerland (Government), So:492

Refining Iron and steel, 1:386 Lead (How lead is obtained), L:125 Metallurgy (Extractive metallurgy), M:375 Petrol (How petrol is produced), P:329 Petroleum (Refining petroleum), P:348

Sugar (Refining cane sugar), So:392 Tin (Refining tin), T:259 Reflecting telescope Astronomy (Optical telescopes), A:693 Observatory (Optical observatory), D:381 Palomar Observatory, P:110 Telescope, T:113; pictures on T:114 Reflection, R:179

Aberration, A:11 with diagram Acoustics, A:25 Echo, E:52 with diagrams Kaleidoscope, K:181 with picture Light (Reflection, refraction, and absorption), L:260 Mirror, M:507 with diagrams

Radar, R:54 Rainbow, R:119 with picture Sound, So:50 Telescope (Reflecting telescopes), T:113 Waves, W:105 with diagram Waves (Reflection and refraction). W:105 with picture

Parabola, P:158

Prism, P:788

Reflection nebula Nebula (Diffuse nebulae), N:65 Reflection seismology Gas (Exploring for gas), G:51 Reflections in a Writer's Eye work by Wilson]

tory, N:43 Radar (The aerial), R:61 Reflector loptics Laser (Measuring), L:71 with picture

Reflex action, R:179 with diagram Baby (Characteristics of newborn babiesl. B:4 Brain (In controlling movement), B:514 Ear (The sense of balance). E:11 Instinct (How instinctive behaviour

works), I:266 Nervous system (Simple pathways), N:83

Yawning, Y:441 Reflex camera Camera (Types of cameras), C:57 Photography (Single-lens reflex cameras), P:449; (Twin reflex camera) Reflux Distillation (Rectification), D:203

Reforestation Conservation (Forest conservation). Forestry (Planting), F:357; picture on F:358 Reform acts United Kingdom, Government of the (The 1800's), U:123

United Kingdom, History of the (Social

changes), U:143; (Political developments) U:145; (Developments in government) U:147 Reform Judaism Judaism, J:155 Religion (Judaism), R:201 Reform school Reformatory, R:183

Reformation, R:180 with pictures

Education, E:93

E:277

Europe, E:388

Henry VIII, H:152

Reformation), F:435

Germany, G:132 with picture

See also list of Related Articles Christianity, C:485 Church and state, C:501 Communication (The start of printing), CE230 Counter Reformation, Ci:392 Cromwell, Thomas, Ci:451 Democracy (The Renaissance and the

Reformation), D:103 England (The English Reformation). Freedom (The Renaissance and the

Knox, John, K:310 Pope (Renaissance and Reformation). P:677 Religion (Christianity), R:205 Religious life (The Roman Catholic Church), R:208 Roman Catholic Church (The Reforma-

tion and Counter Reformation),

sance). W:348 Reformatory, R:183 Prison (Types of prisons) P-789 Reformed Church (religion)

Presbyterians, P:763 Reforming Petroleum (Combining processes). DESIGN.

Refracting-reflecting telescope Telescope, T:114 Refracting telescope

Astronomy (Optical telescopes), A:693 Observatory (Optical observatories).

0:381 Telescope, T:113 Refraction [physics], R:183 with picture Eve (Focusing), E:437 Fermat, Pierre de, F:54 Gem (Index of refraction). G:70 Huygens, Christian, H:392 Light (Reflection, refraction, and absorption), L:260

Opal. 0:454 Ophthalmology, 0:476 Prism. P:788 Rainbow, R:120 Sound, So:50 with diagrams Waves (Reflection and refraction),

W:105 with diagram Refractory, R:183 Brick, B:557

Ceramics (Refractories), C:326 Refractory mixture Sculpture (Greek sculptors), 5:192 Refrigerant Heat, H:121

Neon, N:73 Refrigeration (Principles of refrigeration), R:183 Refrigeration, R:183 with pictures See also list of Related Articles Air conditioning (Kinds of air conditioners), A:193; (Choosing a room

air conditioner) A:193 Food preservation (Cold storage), F:306 Heat. H:121 Space exploration (Returning to the earth), So:135

Refugee, R:187 Arabs (The Arab-Israell conflict), A:493 with picture Citizenship (Birth), Cl:15 Cuba (Recent developments), Cl:483 Immigration (Immigration policies),

Iraq (Recent developments), 1:348 with picture Kurds, K:342 Palestine (World War II and the division of Palestine), P:104

Rwanda (History), R:508 United Nations (Aid to refugees), U:171 with picture Refuse See Waste disposal

Wilson, Sir Angus, W:261

Reflector [electronics] National Radio Astronomy Observa-

Scotland, History of, S:171

R:341

Trent, Council of, T:393

World, History of the (The Renais-

Women's movement, W:294

Regelation, R:187 Regency Buck, The [book by Heyer] Heyer, Georgette, H:188

L:240 with picture tic). N:346 Regency style Reiner, Fritz (Hungarian conductor). Remilar octagon fumiture, F:504 Octagon O:406 with nicture 0.101 Regenerated fibre Reinforced concrete Regular octahedron Fibre, F:66 Cement and concrete (Reinforced con-Octahedron. 0:406 with picture Regeneration, R:187 crete). C:311 Regulator Animal, A:406 Pendulum (Clock pendulum), P:254 Reinforcement [psychology] Crustacean (Growth and develop-Habit (How we learn habits), H:2 Regulus, Marcus Atilius Roman genmentl. Ci:466 Learning (Classical conditioning), L:137 eral]. R:189 Ilver L:333 Reinhardt, Diango [Belgian guitarist] Requirgitation Lizard (Defences), L:340 lazz (The spread of jazz), 1:77 Heart (Valvular disease), H:108 Planarian, P:532 Reinhardt, Max (Austrian theatrical pro-Plant (Vegetative propagation), P:559 Rehabilitation ducerl. R:191 Alcoholism (Treatment). A:239 Sponge, So:236 Reith, John Charles Walsham Criminology (What criminologists Starfish Sp:293 See Reith, Lord study). Ci:441 Regenerative gas furnace Rolth Lord (British public figure), R:191 Hospital (Professional services departfron and steel (The birth of modern Relansing fever (infectious disease), ments). H:315 steelmaking), I:401 D-191 Invenile delinquency (What is a juve-Regent [title], R:188 Relational database nile delinguent?), 1:176 Regent diamond Database, D:40 Prison (How prisons operate), P:789 Diamond (Famous diamonds), D:155; Stroke, So:358 with picture Relative dating picture on D:153 Archaeology (Dating), A:503 Rehabilitation engineering Reggae (music), R:188 Relative humidity Biomedical engineering, B:313 Rastafarians, Ra141 Air conditioning (controlling the mais-Rehabilitation medicine West Indies (Arts), W:167 ture). A:192 Handicapped, H:46 with picture Regiment, R:188 with picture Air (Moisture in the air), A:183 Reibey, Mary [Australian business-Regiomontanus (German mathemati-Heating (Comfort), H:125 woman], R:189 Humidity, H:368 Reibey, Thomas [Tasmanian political Mathematics (The Renaissance), M:257 Hygrometer, H:409 ieader]. R:189 Trigonometry, T:400 Temperature-humidity index. T:137 Reich, R:189 Region geometry/ Relative motion Reich, Ferdinand (German chemist) Set theory (in geometry), \$:277 Time (Physical time), T:257 Indium k180 Region (geographical area), R:188 Relative prime (mathematics) Reichsmark Geography (Regional and topical ge-Factor, F:4 Mark. M:212 ography), G:88 Relativism Reichstadt, Duke of Region of elongation Culture (Ethnocentrism and cultural Napoleon II, N:23 Root (Parts of a root), R:393 with diarelativism). Ci:492 Reichstag gram Philosophy (Ethics), P:421 Germany (The German Empire), G:134 Region of maturation Relativity (physics), R:191 Hitler, Adolf (The New Order), H:230 Root (Parts of a root), R:393 with dia-See also list of Related Articles Reichswehr, R:189 gram Astronomy (A new view of the uni-Reid, Sir George [Australian political Regional characteristics versel. A:699 leaderl, R:189 Geography, G:87 De Sitter, Willem, D:134 Reigate and Banstead (England), R:189 Regional enteritis Einstein, Albert (The papers of 1905), Reign of Terror lleitis, 1:30 Danton, Georges Jacques, D:32 ^{Regional} government Light (Photons), L:258 French Revolution (Terror and equal-Government (Regional and local gov-Relaxation ity), F:453 Health (Rest and sleep), H:95 ernments), G:273 Regional group lacobins, 1:8 Recreation, R:168 Robespierre, R:301 Culture (The boundaries of culture), Sleep, S:484 Reims (France), R:189 with picture Transcendental meditation, T:338 Ci:491 Regional ileitis Reincarnation, R:190 See also list of Related Articles with Hormone (Other hormones), H:279 lleitls, 1:30 the Reincarnation article Regional metamorphism Relay (communications satellite) Australian Aborigines (Life after death), Gneiss, G:217 Telephone (History), T:109 A:838 Metamorphic rock, M:377 Relay orienteering Bali (Culture and tradition), B:41 Regionalism (art) Orienteering, 0:497 Hinduism, H:210 Wood, Grant, W:300 Relay race Philosophy (Oriental philosophy), Regionalists (literature) Athletics, A:711 Spanish literature (The 1800's), So:195 P:422 Relay station Religion (A doctrine of salvation), Register office, R:188 Satellite, Artificial (Communications Registration of Births and Deaths Act R:198 satellites), S:97 Reindeer [animal], R:190 with picture of 1953 Releasing hormone [physiology] Arctic (Animal life), A:542 Register office, R:188 Hormone (Endocrine control hor-Deer, D:81 with picture; D:82 Registration of voters mones), H:279 Lapland (The land and its resources), Voting, V:427 Hypothalamus, H:417 Regression [mental illness], R:189 L:63 with picture Relevance Regrouping (mathematics) Tundra, T:439 Fallacy, F:15 Reindeer moss, R:190

Lichen (The importance of lichens),

Reliability

Addition, A:36

Numeration systems (Decimal arithme-

Re-Moves [dance by Tharp]

Tharp, Twyla, T:187

Drama (Medieval drama), D:288

Oberammergau, 0:379 with picture

See Romulus and Remus

Renaissance, R:214 with pictures and

See also list of Related Articles Architecture, A:525 with pictures

Biology. B:306

Clothing, Ci:102 with pictures

Dancing, D:26

Democracy, D:103

Drama (Italian Renaissance drama)

Education, E:93

Europe (The arts), E:368; (The Renaissance) E:387

Freedom, F:435

French literature, F:446

Furniture, F:496 with pictures Geology, G:92

German literature (The interim period), G:107

Invention, 1:316 Italian literature, 1:445

Machiavelli, Niccolò, M:11 with por-

Mathematics, M:257 Medicine, M:315 Painting, P:54 with pictures

Paris. P:183

Poetry, P:616

Pope, P:677

Roman Catholic Church (The close of the Middle Ages), R:341 Rome (Feudal times and the Renais-

sance), R:369

Scotland, History of (The Renalssance kings), S:171 Sculpture (Medieval and Renaissance

sculptors), \$:193

Town planning, T:319 World, History of the, W:348

Cathedral (Renaissance), C:265

Literature (History), L:314

Renal artery (anatomy)

Kidney (How the kidneys produce urine), K:244 with diagrams

Renal vein [anatomy]

Kidney (How the kidneys produce urine), K:244 with diagrams Renamo [political organization]

Mozambique (History), M:680 Renard, Charles [French inventor]

Airship (History), A:218

Space exploration (Space exploration terms), So:130; (Apollo: Mission to the moon) So:148

Wolf (Young), W:286 Rene, Roy [Australian comedian], R221 Renewable resources

Industry (Natural resources). I:221 A-404 Sculpture (The first sculptors), S:192 Renewal of Life, The Ibook by Mum-Ear (The ears of animals), E:13 Renoussé (decoration) Emhassina F:226 Reproduction, R:224 fordl Statue of Liberty (The statue), Soc305 Zoo. 7:502 with pictures Mumford, Lewis, M:699 Representative. The play by Hoch-Reptiles, Age of Renfrew (Scotland), R:221 See also Dinosaur See also Strathclyde Region Hochhuth, Rolf, H:237 Prehistoric animal (The Age of Rep-Renin tiles). P:745 Representative government See Hypertension Rennie, John (Scottish engineer), R:221 See Democracy: Republic Renton (England) Derbyshire (Places to visit), D:127 Representative Men book by Emer-Pennin Republic (government), R:233 sonl Casein, C:225 See also Democracy: Government Emerson, Ralph Waldo, E:229 Coagulant, Ci:118 Republic. The work by Platol Genetic engineering (In industry), G:81 Representatives, House of Plato (Psychology and politics), P:591 See House of Representatives Reno (U.S.A.), R:221 with picture Republic Day Repression Nevada, N:105 Independence Day picture on. 1:54 Hypnotism (Hypnotic phenomena), Reno. Janet [U.S. attorney general], Republic of Ireland See Ireland: Ireland. History of Memory (Motivated forgetting), M:342 Reno. Jesse W. [American Inventor] Republican Party [U.S.A.], R:234 Phobia, P:427 Escalator, E:323 Psychology (Psychoanalysis), P:830 Repulsion (physics) Renoir, Jean French film directorl. Psychotherapy (Analytical psychother-Fission, F:195 R:222 Magnetism (Attraction and repulsion), apy), P:831 Renair, Pierre Auguste (French M:55 Reprieve (crime), R:223 painter], R:222 with picture and por-Requiem [music by Mozart] Reproduction, R:223 with pictures Classical music (Choral music). Ci:57 See also list of Related Articles Impressionism (French impression-Mozart, Wolfgang Amadeus (Church Amphibian, A:341 ism), I:46 music). M:682 Animal (Importance of animals), A:378; Painting (People), P:32: (Pastels) P:42; Rerum Anglicarum et Hibernicarum (How animals reproduce) A:404 pictures on P:28, P:75; (Impres-Annales, regnante Elizabetha with picture sionism) P:76 with picture lbook by Camdeni Ant. A:430 Rent [economics]. R:222 Camden, William, C:51 Bacteria (How bacteria reproduce), Reorganized Church of Jesus Christ Rerum Novarum B:21 with pictures of Latter Day Saints Leo XIII. L:176 Bat, B:147 See Latter Day Saints, Reorganized Roman Catholic Church (Leo XIII). Crustacean, Ci:466 Church of lesus Christ of R:343 Dinosaur (Reproduction and growth), Repeal [law], R:223 Resaca de la Palma. Battle of 06181 Repeal by implication Mexican War (Principal battles), M:396 Elephant, E:206 Repeal, R:223 Rescue helicopter **Evolution (Causes of evolutionary** Repeater (communications) Helicopter (For rescue missions). change), E:407; (How characteris-Cable (Coaxial cables), C:5 H:132 with picture tics are inherited) E:407 Telephone (Long-distance lines), T:107 Surf lifesaving, So:434 Heredity (Sex cells and reproduction), Repeating decimal Rescue methods Rational number, R:143 H:166 Surf lifesaving, So:434 Repertoire Insect. 1:254 Research, R:234 with pictures Life, L:245 See also list of Related Articles Opera. 0:456 Mammal (How mammals reproduce), Repertory theatre Computer (Research and develop-Opera, 0:456 M:131 ment), Cl:263 Plant (How plants reproduce), P:556 Repetition Disease, D:197 with pictures Advertising, A:63 Dolphins (Research on dolphins), Reproduction, Human, R:225 Classical music (Classical music Reptile, R:233 Drug (Research and development). forms), Ci:58 Tree (How trees reproduce), T:380 Design, D:133 with picture D:316 with picture with diagrams Humour, H:371 Food (Food research), F:301 Whale, W:209 with picture Propaganda (Simplicity and repetition), Food supply (Research programmes), Reproductive Isolating factor F:315 with picture Evolution (Evolution of new species), Shakespeare, William (Rhetoric), **5:323** Guinea pig, G:418 E:408 Replacement History (How historians work), H:224 Reproductive system Fossil (How fossils form), F:371 Mammal (How people use mammals), Replication Bird. B:353 Butterfly, B:687 Manufacturing (How science helps Heredity (The structure of DNA), H:170 Report on the Affairs of British North Fish, F:170 manufacturing), M:170 Human body, H:358 with picture, Medicine (Problems for research). America (report by Durham) (Trans on three nsional picture) Durham, Earl of, D:355 M:319 Reporter Public relations (Methods), P:841 H:353 insect, I:251 Journalism, **J:149** Radar (in scientific research), R:57 See also Reproduction Newspaper, N:181 Rhesus monkey, R:250 Reptile, R:230 with pictures War correspondent, W:34 Rocket (Atmospheric research), R:318 See also list of Related Articles

Animal (A table of animal intelligence),

A:401; (Sexual reproduction)

with picture

Space exploration (Conducting scien-

Repotting

Gardening, G:42 with picture

Repoussé (decoration)

cuits) E:169

Resistance-seam welding

Resistance spot welding

Resistance thermometer

Resistance heating

Wheatstone bridge, W:226

Heating (Electric heating), H:127

Welding (Resistance welding), W:143

Weiding (Resistance welding), W:143

Thermometer (Electrical thermometers). T:215 Resistance welding Welding, W:143 Resistance Electronics (How a circuit works), Decistor Integrated circuit, **£275** Poelstor Electronics (Passive components), ENTRY Electronics (Terms used in electronics), E:185 Resolution [optics] Telescope (What telescopes do), T:112 Resolution [ship] Cook, lames (The second voyage). CI-330 Submarine (Nuclear submarines). So:372 Resonance Magnetic resonance imaging (MRI), A4:52 Sound, So:51 Resonance frequency Sound (Resonance), So:51 Resonator Laser (Parts of a laser), L:72 Resorcinol formaldehyde resin glue Woodworking (Fastening), W:307 Resort hotel Hotel, H:318 with picture Resources, Natural See Natural resources Respighi, Ottorino (Italian composer), P:239 Respiration, R:239 See also list of Related Articles Animal (Adaptations for breathing), A:399 with pictures Bird. B:352 Butterfly, B:687 Circulatory system, CI:7 Fish. F:168 Human body (Respiratory system), H:355 with diagram Insect. I:251 Lung, L:414 Mammal, M:129 Plant, P:562 Seed (How seeds sprout), S:237 Spider (Respiratory system), So:220; diagram on So:219 Whale (Respiratory system), W:208 Respirator Iron lung, 1:403 Poliomyelitis (Treatment of poliomyelitis), P:646 Respiratory centre Respiration (Control of breathing). R:240

Respiratory system

See Respiration

Resplendent quetzal

Bird picture on, B:330

nsional picture) H:353

Response lasychologyl Rehaviour (Behaviourism), B:202 Learning (Classical conditioning), L137 Psychology (Behaviourism), P:830 Responsibility iphilosophyi Existentialism, E:415 Responsible government, R:241 Rest Imusici Music (Indicating time values), M:733 Rest [physiology] Fatique, F:35 Health (Rest and sleep), H:95 See also Relaxation Rest I'll Whistle, The [book by Powell] Powell, Anthony, P:731 Restaurant, R:241 with picture Resting potential Nervous system (The beginning of an impulse), N:84 with picture Restoration (English history), R:242 Charles II [1630-1685], C:351 Cromwell, Richard, Cl:451 England (The Restoration), E:279 Monk, George, M:562 Shakespeare, William (The Restoration period), S:326 Restoration style Euznituze, F:504 Restormel [England], R:242 Restriction enzyme DNA fingerprinting, D:217 Gene mapping, G:75 Genetic engineering (How genes are isolated), G:80 with diagram Heredity (The era of genetic engineer ing), H:174 Resurfacing Road (How roads are maintained), R:297 Resurrection, R:243 with picture Christianity (Resurrection and Pentecost), C:484 Easter, E:41 with picture Jesus Christ, J:101 with picture Mormons, M:608 Peter, Saint (Life as an apostle), P.325 Resurrection plant, R:243 with picture Resurrection (book by Tolstoy) Tolstoy, Leo (Later works), T:290 Resuscitator See Ventilator Reszke, Edouard de [Polish opera singerl, R:244 Reszke, Jean de [Polish opera singer] R:243 **Retail Price Index** Consumer Price Index, Cl:312 Retail selling Salesmanship, S:49 Retailing, R:244 Food (Marketing), F:300 Marketing (Distribution), M:213 Respiratory distress syndrome, R:241 Trade (The use of markets), T:325 Human body, H:355; (Trans on three Retainer [law], R:245 Retardation

See Mental retardation

Hungary (Way of life), H:376

Rétes (food)

Quetzal, 0:27

Ortega v Gasset, José, 0:507 Australian Aborigines (Boomerangs). Reficular formation Revolution, R:246 Brain (The brain stem), B:512 A:830 Reunification inclitical science American Revolution, A:323 Reticulate python Cuba (The Castro revolution). Ci:481: Germany (the unification of East and Python, P:878 picture on Ci:482 Reptile picture on, R:231 West Germanyl, G:139 French Revolution, F:451 Korea (North-South relations), K:329 Reticulum Vernen (Unification) V:451 Marx, Karl (Class struggle), M:235 Cattle (Stomach), C:271 with diagram Reunion (island), R:245 Russian literature (Soviet literature), Ruminant, R:456 with diagram Rain (Rainfall distribution). R:116 R:500 Retlef, Piet (Boer leader), R:245 Terrorism, T:159 Reuter, Baron de [German journalist], Great Trek (The journeys), G:328 Revolution of 1905 South Africa, History of (Settlement of R:245 Duma. D:342 News service, N:179 Natal), So:79 Lenin, V. I. (Revolt), L:170 Reinters (news agency), R:245 Petina Presia R:489 Blindness (Diabetic retinopathy), B:366 Routers, R:245 Revolution of 1910 Revelation, Book of [New Testament], Diseases of the retina) E:442 Mexico M:421 0.745 Fve (Parts of the eye), E:435; (Adapta-Revolution of 1952 tion to light and dark) E:439 Bible, B:274 Bolivia, B:430 New Testament (Books), N:135 laser (Heating), L:71 Revolution of 1974 Patmos, P:216 Ophthalmology, 0:476 Portugal, P:706 Revenge (ship) Perception (Receptors), P:277 Revolution of 1848 [European history], Bonnet, Stede, B:452 Retinal pigmented epithelium (RPE) Dampier, William (First circumnaviga-Eve (Adaptation to light and dark), Austria (Metternich and revolution). tion (1679-1691)), D:18 E:439 Drake, Sir Francis (Expeditions against Retinitis piomentosa France (The revolutions of 1830 and Spain), D:283 Blindness, B:389 1848), F:414 Perry, Oliver Hazard, P:290 Eve (Diseases of the retina), E:442 Germany, G:133 Revenger's Tragedy, The play by Retinoblastoma Italy (Italy united), 1:469 Tourneurl Bilindness, B:389 Revolutionary Command Council Tourneur, Cyril, T:313 Eve (Diseases of the retina), E:442 Egypt (Republic), E:117 Revenue, Inland Heredity (table), H:169 Revolutionary War in America See Inland revenue See also Cancer See American Revolution Reverberation Retinoi Revolver (weapon) Acoustics (Architectural acoustics), Vitamin (Vitamin A), V:410 Firearm (Types of firearms) picture on, A:25 Retirement pension Echo, E:52 See Pension Handgun, H:42 with pictures Sound (Controlling sound), So:53 Retribution Reward Reverberatory furnace Prison (How prisons operate), P:789 Habit (How we learn habits), H:2 Copper (Smelting), Ck343 with dia-Retrieval system Rex [musical comedy by Rodgers] See Information retrieval aram Rodgers, Richard, R:331 Smelting, S:497 Retriever, R:245 Revere, Paul (American patriot), R:246 Rex cat Retrolental fibroplasja Cat (Short-haired breeds) picture on, with picture Eye (Diseases of the retina), E:443 Reveries of the Solitary Stroller [work Retrovirus (virus) Rexroth, Kenneth (American poet), AIDS (Cause), A:179 hy Rousseaul R:247 French literature (The Age of Reason), Retting Reye's syndrome (disease), R:247 F:448 Flax (Growing and processing fibre Aspirin, A:668 Rousseau, Jean-Jacques (Later life), flax), F:222 Reykjavík licelandi, R:248 Hemp, H:149 R:413 Geyser (Where geysers are found), Reverse extrusion Jute, J:174 Extrusion, E:434 linen (Preparing the fibres), L:292 Iceland (Education), I:21; (The low-Return crease Reverse osmosis lands) I:22; picture on I:23 Osmosis (Uses of osmosis), 0:512 Reynard the Fox [work by Masefield] Cricket, Ct:425 Water (Fresh water from the sea), Return of the Hunters (painting by Masefield, John, M:241 Reynolds, Albert [trish political leader], Bruegel] W:79 Reversion Bruegel, Pieter, The Elder, B:597 R:248 with picture Painting (Pieter Bruegel the Elder), See Atavism Fianna Fáil, F:66 Reynolds, Sir Joshua (English painter), Reviewing P:58; picture on P:29 Return of the King, The (book by Tolk-Book review, B:459 R:248 with picture Criticism, Cl:442 Blackstone, Sir William picture on, Revised Standard Version Tolkien, J. R. R., **T:288** B:381 Bible (Modern English translations), Return of the Soldler, The book by Boswell, James picture on, B:478 West Johnson, Samuel, J:134 with picture H:277 West, Dame Rebecca, W:156 Revival of learning Kauffmann, Angelica, K:201 See Humanism; Renaissance Return of Ulysses, The lopera by Mon-Reza Shah Pahlavi (shah of Iran), R:249 Revivalism [religion], R:246 Iran (World War I and Reza Shah). Revolt of the Catholic Kings Monteverdi, Claudio, M:577 1:339; (The nationalist movement) Roman Catholic Church, R:342 Returned Services League of Aus-

Revolt of the Masses, The Ibook by

Ortega y Gassetl

tralia (R.S.L.), R:245

Returning boomerang

1:339

Rh [symbol]

Chorea, C:480

Heart (Valvular disease), H:108

Rhodium, R:257	Scarlet fever (Complications), S:123	Rhodes Scholarship, R:256
Rh factor [physiology], R:249	Rheumatic heart disease	Transvaal (History), T:364
Blood (Rh blood types), B:399	Heart (Valvular disease), H:108	Zimbabwe (History), Z:496
Deafness (Birth defects), D:56	Rheumatic fever (Cause and symp-	Rhodes Scholarship, R:256
Ear (Birth defects), E:12	toms), R:251	Oxford University (Educational pro-
Medicine (The medical revolution),	Rheumatism, R:251	gramme), 0:533
M:317	Arthritis, A:606	Rhodes, Cecil John, R:256
Rhesus monkey, R:250	Rheumatoid arthritis	Scholarship, S:127
Rh-negative	Arthritis, A:606 with picture	Rhodes, Cecil (British statesman)
Blood (Rh blood types), B:399	Disease (Noninfectious diseases),	Gauteng, G:65
Rh factor, R:249	D:193	Rhodesla
Rh-positive	Rheumatology, R:251	Malawi (History), M:80
Blood (Rh blood types), B:399	Medicine (The specialities), M:311	Rhodes, Cecil John (Gains Rhodesia
Rh factor, R:249	Rhine, J. B. [American psychologist]	R:256
Rhaetian Alps	Extrasensory perception (Debate about	Rhodesia and Nyasaland, Federatio
Switzerland (The Swiss Alps), So:496	ESP), E:433	of, R:256
Rhamphorhynchus	Rhine Gold, The [opera by Wagner]	Smith, Ian Douglas, \$:498
Prehistoric animal picture on, P:749	Wagner, Richard (Later career), W:3	Zambia (History), Z:488
Pterosaur, P:833 with picture	Rhine River, R:251 with picture and	Zimbabwe (History), Z:496
Rhapsody in Blue [music by Gershwin]	map	Rhodesia and Nyasaland, Federati
Gershwin, George, G:142	Danube River, D:32	of, R:256
Grofé, Ferde, G:380	France (The Land), F:404	Rhodesian ridgeback, R:257
Rhazes (Persian physician)	Germany (Land), G:124; pictures on	Dog picture on, D:228
Medicine (The Middle Ages), M:314	G:113, G:126	Rhodium (chemical element), R:257
Rhea [bird], R:249 with picture	River (table), R:290	Rhodochrosite
Rhea [Greek mythology], R:250	Rhine Valley	Mineral picture on, M:485
Cronus, Cl:452	France, F:404	Rhododendron, R:257 with picture
Hades, H:4	Rhineland, R:252	Rhododendron sinogrande
Hestia, H:188	Hitler, Adolf (The road to war), H:231	Rhododendron, R:257
Mythology (The Creation myth),	Locarno Conference, L:347	Rhodope Mountains
M:756; (table) M:758	World War II (Aggression on the	Bulgaria, B:636
Titans, T:265	march), W:380	Rhodopsin
Rhea Silvia	Rhineland Security Pact	Eye (The retina), E:437; (Adaptation
Romulus and Remus, R:385	Locarno Conference, L:347	light and dark) E:439
Rhee river	Rhinitis (disorder), R:253	Rhombohedral crystal
Cambridgeshire (The land), C:50	Rhinoceros, R:253 with pictures	Crystal (Classifying crystals), Cl.469
Rhee, Syngman (Korean statesman),	Animal (Protected areas), A:413; pic-	with picture
R:250 with portrait	ture on A:385	Rhombohedron
Korea (A divided nation), K:328; (South	Hluhlawe, H:233	Calcite, C:23
Korea) K:328	India (Mammals), 1:69; picture on 1:70	Rhomboid (geometry), R:257
Rhenium (chemical element), R:250	Rhinoceros beetle	Rhomboid muscle (anatomy)
Rheostat, R:250	Beetle picture on, B:199	Back, B:17
Electricity (table), E:168; (Controlling	Rhinoceros hornbili	Rhombus (geometry), R:257
electricity) E:169	Bird picture on, B:325	Quadrilateral, Q:4
Rhesus factor [physiology] See Rh factor	Rhizoctonia	Rhondda [Wales], R:258
	Potato (Diseases and insect pests),	Rhône River, R:258
Rhesus monkey, R:250 with picture	P:720	Geneva, G:82
India (Mammals), 1:69; picture on 1:70	Rhizold	Lake Geneva, L:24
Macaque, M:2 Monkey, M:562	Fungi (Parts of a fungus), F:485	Lyon, L:427
, .	Hornwort, H:284	Rhône-Saône Valley
Rh factor, R:249	Liverwort, L:336	Lyon, L:427
Rhesus [play by Euripides]	Moss (The structure of mosses), M:636	Rhône-Saône Valley
Euripides, E:354 Rhetoric	Mould, M:653	France, F:406
	Plant (Bryophytes), P:546	Rhubarb, R:258 with picture
Greek literature (Philosophical litera-	Rhizome [horizontal plant stem], R:255	Rhuddian [Wales], R:258
ture), G:357	Begonia, B:201	Rhumb line
Latin literature (Characteristics of Latin	Rhizome [horizontal plant stem]	Great-circle route, G:315
literature), L:96	Fern (Parts of a fern), F:55	Rhumba
Liberal arts, L:203	Grass (The grass plant), G:301	See Rumba
Oratory, 0:484	Oxalis, 0:531	Rhyme [poetry], R:258
Quintilian, Q:30	Rhubarb, R:258	
Rome, Ancient (Education), R:372	Stem (Specialized stems), So:316	Nursery rhyme, N:352 Will plant
Shakespeare, William, \$:323	Rhode Island (U.S.A.), R:255 with map	Slang (Rhyming slang), S:479
Rhetorical criticism	Williams, Roger, W:257	Slang (Rhyming slang), Sang (Rhymes of a Red Cross Man book
Criticism (Kinds of literary criticism),	Rhodes [Aegean Sea], R:256	Services 6,272
Ci:442	Sculpture (Kinds of sculpture), \$:190	Service, Robert William, S:272
Rheumatic fever, R:251	Rhodes, Cecil John [British statesman],	Service, Robert William, Santa Rhymes of a Rolling Stone (book b

R:256 with portrait

Northern Cape (History), N:268

Servicel

Service, Robert William, S:272

583

Rhythm, R:259

Dancing (Kinds of dancing), D:22 Design, D:134

Music, M:730

Poetry, P:612 Rhythm and blues

Rock music (Musical roots), R:311

Rhythm method Birth control (Methods of birth con-

trol), B:368

Rial (money), R:259

Rib lanatomyl, R:259 with diagram Diaphragm, D:156 with diagram

Skeleton (The axial skeleton), S:460 with diagram

Rib stitch

Knitting (Knitting the fabric), K:304 Textile (Weft knitting), T:171

Ribaut, Jean [French explorer], R:260 United States, History of the picture on, U:236

Ribbed vault

Architecture (Gothic architecture),

A:524 with picture Gothic art (Early Gothic architecture),

G:263 Vault, V:320

Ribbentrop, Joachim von (Nazi official], R:260

Nuremberg Trials (The trials), N:351

Stalin, Joseph picture on, So:269 Ribbie Valley [England], R:260

Ribbon Falls

California (Land), C:38 Ribbon snake

Garter snake, G:46

Ribbon worm, R:260 with picture Animal (A classification of the animal kingdom), A:414

Worm, W:411

Ribera, jusepe de l'Spanish painterl, R:260

Riboflavin

See also Vitamin Nutrition (Vitamins), N:364

Ribonuclease (enzyme) Enzyme, E:310

Rhonucleic acid (RNA)

Cell, C:302

Enzyme, E:310 Gene, G:75

Heredity (How proteins are made), H:171

Life (Nucleic acids), **L:249**

Molecular biology (The beginning of molecular biology), M:532

Nucleic acid, N:341

Vivoid, V:405

Ribonucleic acid (RNA) [biology] Cell (RNA-the master copy), C:301 Ribosome

Heredity (How proteins are made),

H:171

Ribosome [biology]

Cell (table), C:293; (Endoplasmic reticulum) C:295 with diagrams

Ricardo, David British economist, R:260

Rice, R:261

See also list of Related Articles with the Rice article

Burma (Agriculture, forestry, and fishing), B:660 with picture

Colonial life in America (Crops), Cl:184

Food (Customs), F:297 Grass (Kinds of grasses), G:302

India (Agriculture), I:72 with picture Indonesia picture on, I:191

lava picture on, 1:69 Rice popcorni

Maize (Popcom), M:73

Rice weevil

Grain weevil, G:287 Weevil, W:132 with picture

Rice, Edmund Ignatius [irish educator], R:267 with portrait

Rice, Elmer [American dramatist], R:267 American literature (Drama), A:318

Rice, Tim (British writer), R:267 with portrait

Ricebird

See Bobolink

Rich, Adrienne (American poet) American literature (Poetry), A:319 Richard I iking of Englandl, R:267 with

portrait Crusades (The Third Crusade), Ci:463

with map

Cyprus (History), CI:514 England (Magna Carta), E:276 Flag picture on, F:210

Henry VI, H:154

Philip II, P:365 with portrait Sergeant at arms, S:269

Richard II [king of England], R:267 with portrait

England (The Hundred Years' War), E:276 Wat Tyler's Rebellion, W:65

Richard III (king of England), R:268 with portrait Bosworth Field, B:478

Edward V, E:94

England (Wars of the Roses), E:277

Richard II [play by Shakespeare]

Shakespeare, William, S:312 Richard III [play by Shakespeare]

Shakespeare, William, S:310 Richard, Duke of Gloucester

Royal Family of the United Kingdom (The outer circle), R:425

Richard, Duke of York

Princes in the Tower, P:779

Richard, Eugene C. [American designer

Buick, David Dunbar, B:626

Richard Hailiburton's Complete Book of Marvels (book by Halliburton) Halliburton, Richard, H:23

Richards Bay, R:268

Richards, Frank (British author), R:268

Richards, I. A. [British critic], R:268 Richards, Sir Gordon (British jockey),

Rt268 Richards, Viv [West Indian cricketer],

R:268

Cricket picture on, Ci:433

Richardson, Henry Handel [Australian authorl, R:268 Richardson, Henry Hobson | American

architect), R:269 with picture Architecture (Early modern architec-

ture in America), A:534 Richardson, Samuel (English author),

R:269 American literature (The sentimental novel). A:311

Novel (The first English novelists), N:312

Richardson, Sir Albert (British architect), R:269

Richardson, Sir Owen W. (British phys-

icist]. R:269 Nobel Prizes (Physics), N:226

Richardson, Sir Ralph (British actor),

Shakespeare, William (Modern performances), \$:327 with picture Richardson's law

Richardson, Sir Owen W., R:269

Richelieu, Cardinal [French statesman], R:269 with portrait

See also list of Related Articles France (The age of absolutism), F:413

French Academy, F:441 Richelleu River [Canada], R:270 Richelleu (book by Bulwer-Lytton) Bulwer-Lytton, Edward George Earle

Lytton, B:643 Richler, Mordecai (Canadian novelisti,

R:270 Richmond [U.S.A.], R:270

Richmond upon Thames [England],

Richmondshire (England), R:271 Richter magnitude, R:271

Earthquake, E:37 See also Seismograph; Seismology

Richter, Burton iAmerican physicist Nobel Prizes (Physics), N:227 Physics (Advances in the mid-1900's),

Richter, Hieronymus Theodor [German chemisti

Indium, 1:180 Richthofen, Baron Manfred von [Ger-

man war acel War aces, W:34 with picture

World War I (The war in the air), W:370

Rickenbacker, Eddle (American air

ace), R:271 War aces, W:34

World War I (The war in the air), W:370

Rickets, R:271 Bone (Bone disorders), B:447

Rickets [disease] Nutrition (Vitamin deficiencles), N:368

Ricketts, Howard Taylor (American

Morocco (Land regions), M:614

Rifampin (drug)

Right Stuff, The book by Wolfel Leprosy (Treatment), L:183 pathologist Rifkin, Joshua (American pianist) Wolfe, Tom, W:288 Rickettsia, R:271 Right whale Rickettsia [microorganism], R:271 Joplin, Scott, J:140 Whale (Some kinds of whales), W-204 Rifkind, Malcolm [British politician], Typhus, T:488 (Right whales) W:206; (The early Rickover, Hyman George [American R:273 days of whaling) W:211 Rifle, R:274 with pictures naval officer], R:272 Rickshaw See also list of Related Articles Right wing [politics], R:277 Rights of Man, Declaration of the See linrikisha Firearm (Types of firearms) picture on, [French history], R:277 Riddell, Elizabeth [New Zealand poet], F:137 R:272 Garand rifle, G:32 Bill of rights (French Bill of Rights), Riffeman [bird], R:276 Riddle [humour], R:272 B:293 Wren, W:414 Nursery rhyme (Rhyming riddles), French Revolution (The National As-N:353 Riffling sembly), F:452 Riddle of the Sphinx Artillery, A:614 Humanism (Government), H:364 Riddle, R:272 Gun, G:428 Rights, Bill of Riddle of the Universe, The book by Rifle (The parts of a rifle), R:274 See Bill of Rights Haeckel) Rift valley Rigoletto (opera by Verdi) Haeckel, Ernst Heinrich, H:5 Antarctica (Land regions), A:438 Opera, 0:472 Ride, Sally K. [American astronaut Israel, I:433 Verdi, Giuseppe, V:345 Space exploration (The shuttle era be-See also Great Rift Valley Rigor mortis gins), So:158 with picture Valley (How valleys are formed), V:303 Death (Medical aspects of death), D:38 Ride, Sally K. [American astronaut] Rig-Veda [Indian sacred texts] Space exploration (The shuttle era be-Plate tectonics (Divergent plate bound-Vedas, V:320 gins), So:157 picture on So:159 aries), P:584 Rig-Veda religious book Rideal, Sir Eric Keightley (British Rig [derrick] Hinduism (The Vedas), H:214 chemist), R:273 Petroleum (table), P:336; (Preparatory Mythology (Müller's theory), M:764 Riders in the Charlot book by Whitel measures) P:342 with picture Rils, Jacob August (American journal-White, Patrick, W:232 Rig Veda lindian sacred text ist]. R:277 India, Literature of (The Vedas), 1:124 Photography (Artistic advances), P.462 Riders to the Sea [play by Synge] Realism (In drama), R:160 Riga [Latvia], R:276 Playground (History), P:594 Synge, John Millington, So:518 Latvia, L:102 with picture and map Riksdag Ridiculous Pedant, The play by Sweden (Government), So:461; (Union Riga, Gulf of Cyrano de Bergeraci Estonia (Land and climate), E:332 with with Norway and Denmark Cyrano de Bergerac, Savinien de, So:473 CI:515 Rigel [astronomy], R:276 Ribornhi Orion [constellation], 0:498 Norway (Language), N:293 Horse (How to ride), H:296 Star (How many stars are there?), Riley, James Whitcomb (American Riding to hounds So:280; (Colour, temperature and poet), R:277 Fox hunting, F:380 Rilke, Rainer Maria (German post), brightness) So:281; (table) So:284 Rigging R:277 See Tipperary; Yorkshire Sailing (Rigging), S:23 Rill Ridley, John [Australian inventor], R:273 River (The source of a river), R:289 Ship (Phoenician and Greek ships), with portrait 5:365 Ridley, Nicholas (English bishop), R:273 Moon (The moon's surface), M:585 Right-angled triangle Riel, Louis |Canadian settler] Triangle, T:397 with diagrams with picture Red River Rebellion, R:173 Trigonometry, T:401 with diagrams Rim lock Riemann, Georg Friedrich Bernhard. Right ascension Lock, L:349 with picture [German mathematician] Rimbaud, Arthur [French poet], 8:277 Astronomy (table), A:688; (Locating ob-Geometry (Non-Euclidean geometry), French literature (Symbolism), F:449 jects in the skyl A:692; diagrams G:97; (Rise of non idean geomeon A:690 Verlaine, Paul, V:346 try) G:98 "Rime of the Ancient Mariner, The" Right cerebral hemisphere Mathematics (In the 1800's), M:260 Brain (The cerebrum), B:511 lpoem by Coleridgel Riemannian geometries Ballad (The ballad style), B:45 Right-hand rule Geometry (Non-Euclidean geometry), Coleridge, Samuel Taylor, Cl:161 Electric motor (Basic principles), E:153 Rimmer, William [American sculptor] G:97 Right lymphatic duct Sculpture (American sculpture), \$:214 Relativity (General relativity theory), Human body (The lymphatic system), Rimsky-Korsakov, Nikolai (Russian R:193 H:357 Riemenschneider, Tilman [German composerl, R:278 with portrait Lymphatic system (Lymphatic vessels), sculptor), R:273 Borodin, Alexander, B:471 L:425 with diagram Germany picture on, G:122 Mussorgsky, Modest, M:746 Right of blood Rienzi, Cola di Italian patrioti, R:273 Opera (Boris Godunov), 0:467 Nationality, N:45 Rienzi (book by Bulwer-Lytton) Right of extraterritoriality Rimu [tree], R:278 Bulwer-Lytton, Edward George Earle Rinderpest (cattle disease), R:278 Thailand (European contact), T:184 Lytton, B:643 Right of possession Ring [astronomy] Jupiter (Satellites and ring), J:172 Rienzi lopera by Wagner) Wagner, Richard (Early career), W:3 Right of search [law], R:276 Neptune, N:78 Saturn, S:100 with picture; (Rings) Rif [mountains] Right of the place of one's birth

Nationality, N:45

Right of way, R:277

S:101 with picture Ring [jewellery], R:278 with pictures

Risso's dolphin

Rite Ireligion

Liturgy, L:332

Rite of passage, R:288

Buddhism (Festivals), B:617

Dolphin (Other species), D:252

Magic (Elements of magic), M:45

B:533; (History) B:543

Rio Grande Iriver, North Americal,

South America, So:94

R:284 with picture

Texas (Land), **T:167**

See Madeira River

Rio Madeira

Río Muni

Río de la Plata (South America), R:284

Riveting, R:293

Riveting, R:293

Riveting, R:293

Riviera [Mediterranean], R:293 with

Riveting, R:293

map

Rivet boy

Riveter

Cagney, James, C:15

Roaring Twenties, R:299

United States, History of the (Life dur-

ing the Roaring Twenties), U:256

Magician (Illusions), M:48 France picture on, F:406 Roberto Devereaux lopera by Doni-Riyadh (Saudi Arabia), R:294 Coffee, Ci:152 Cooking, Cl:335 zettil Saudi Arabia, S:103 Meat (How meat is cooked), M:298 Donizetti, Gaetano, D:266 Rizal, José, R:294 Robert's Wife [work by Ervine] Philippines, History of the (Commerce Metallurgy, M:376 Rob Roy (Scottish outlaw), R:300 Ervine, St. John, E:323 and trade), P:406 Philippines (Arts), P:376 Rob Roy [book by Scott] Roberts, Kate [Welsh writer] Welsh literature (Later literature). Rizzio, David (Scottish public figure) Scott, Sir Walter (The Waverley nov-Darnley, Lord, D:37 els), S:175 W:151 RNA Robards, Lewis [American army officer] Roberts, Margaret Hilda See Thatcher, Margaret Jackson, Andrew, £6 See Ribonucleic acid Roach [fish], R:295 with picture Robards, Rachel Donelson (wife of) Roberts, Samuel (Welsh reformer). Roach [insect] Jackson, Andrew, J:6 R:301 See Cockroach Robbe-Grillet, Alain (French author), Roberts, Tom [Australian painterl, Road Back, The [book by Remarque] R:300 R:301 Remarque, Erich Maria, R:209 Fiction, F:69 Australia, Art and architecture of (Int-Road, R:295 with picture Robben Island [South Africa], R:300 pressionist painters), A:782 with See also list of Related Articles Robber crab picture Industrial Revolution, 1:215 Hermit crab, H:179 Heidelberg School, H:134 Road blke Robbery, R:300 Robertson, Ethel Florence Richard-Bicycle, B:281 Bandit, B:76 son Road map Burglary, B:650 Richardson, Henry Handel, R:268 Map (Mobility map), M:183 Crime (Types of crimes), Ch435 Robertson, Sir Dennis (British econo-Road octane number Pirate, P:519 mist], R:301 Petrol (Petrol octane ratings), P:329 Robbery Under Arms book by Roberval, Sieur de [French explorer], Road race **Brownel** R:301 Athletics (Running races), A:710 Australia, Literature of (The develop-Robeson, Paul (American singer), R:301 Cycling, Ci:510 ment of the novel), A:830 with portrait Road to Calvary [book by Tolstoy] Robbia, Della Shakespeare, William picture on, Russian literature (The period of re-See Della Robbia S:309 birth), R:500 Robbins, Frederick C. [American bac-Robespierre [French political leader], Tolstoy, Alexei, T:288 teriologist! R:301 with picture Road to Glory, The [film] See also list of Related Articles Enders, John Franklin, E:243 Hawks, Howard, H:87 Nobel Prizes (Physiology or medicine), Danton, Georges Jacques, D:32 Road to Hollywood, The lbook by French Revolution (The national con-Hope! Robbins, Jerome (American dancer), vention). F:453 Hope, Bob, H:276 P:300 Jacobins, J:8 Road to Rome, The [play by Sherwood] Napoleon I (Early military career), N:19 Ballet (Ballet today), B:58 Sherwood, Robert Emmet, S:356 Robey, Sir George (British entertainer), Film industry (Best achievement in di-Road to Singapore [film] recting), F:96 R:302 with portrait Crosby, Bing, Cl:454 Martins, Peter, M:234 **Robie House** Hope, Bob, H:276 Musical comedy (The modern musi-Architecture (Frank Lloyd Wright), Roadrunner (bird), R:299 cai), M:740 Animal picture on, A:390 Wright, Frank Lloyd (Early careerl, Robe, The [novel by Douglas] Bird picture on, B:329 Douglas, Lloyd Cassel, D:272 W:417 with picture Roads of Destiny (book by Henry) Robe dwiyet, la [clothing] Robin, R:302 with picture Henry, O., H:154 Bird pictures on, B:322, B:328, B:346 Dominica (Way of life), D:256 Roads of Freedom, The (books by Sar-Robin Hood (legendary figure), R:303 Robert II [king of Scotland] trel Kings and queens of Britain and Irewith picture Sartre, Jean-Paul, S:93 land (The Stuarts in Scotland), England (Magna Carta), E:276 Roads to Freedom [book by Russell] K:272 Nottingham, N:306 Russell, Bertrand, R:461 Scotland, History of (The War for Inde-Robins, Elizabeth Roadside Skipper pendence), S:169 Penneli, Joseph, P:262 Robinson, Edwin Arlington (American Butterfly picture on, B:682 Robert III (king of Scotland) Roadster Scotland, History of The first Stuarts, poetl, R:303 Horse (Light harness horse), H:288 American literature (Modernist po-S:170 Roanoke Island Robert etry), A:317 Lost Colony, L:394 Robinson, George Augustus Tas-Kings and Queens of Britain and Ire-Raleigh, Sir Walter (His expeditions). land (The Stuarts in Scotland), manian settler!, R:303 Robinson, Joan Violet British econo R:127 **Roaring Fortles** Robert, Anne-Jean [French balloonist] mistl. R:304 Robinson, Lennox [Irish dramatist], Hartog, Dirk, H:72 Balloon (The hydrogen balloon), B:63 Prevailing westerly, P:773 Robert, Marie-Noel [French bailconist] Robinson, Mary Irish president, R:304 Roaring Twenties, The [film] Bailoon (The hydrogen balloon), B:63 Ireland, Government of picture on, Bogart, Humphrey, B:419 Robert Eismere [book by Ward]

Ward, Mary Augusta, W:39

Houdini, Harry, H:320

magician

Robert-Houdin, Jean Eugéne (French

Ireland, History of (The Republic of Ire

President (Women as presidents),

land), 1:377

Roasting

Austria picture on, A:859

Baroque, B:116

Stephenson, George, So:317 Continental drift, Cl:315 P:768 with picture Stephenson, Robert, So:317 Robinson, Ray [politician of Trinidad Earth (The earth's crust), E:19; (History Rocket, R:316 with pictures of the earth) E:25 and Tobago), R:304 Ballistics, B:59 Robinson, Sir Robert (British chemist), Feldspar, F:48 Congreve, Sir William, Ci:285 Igneous rock, 1:28 Fireworks, F:140 Nobel Prizes (Chemistry), N:229 Magnetism, M:54 Goddard, Robert Hutchings, G:225 Robinson, Sugar Ray [American boxer], Metamorphic rock, M:377 Helium (Uses), H:143 Petrology, P:354 R:304 with portrait Inertial guidance, I:227 Robinson, William Heath British art-Quarrying, Q:7 Jet propulsion, J:102; (Kinds of jet enistl, R:305 with picture Quartz, Q:8 gines) k104 with picture Sand, S:69 Robinson Crusoe (book by Defoel, Plasma, P:574 Stratified rock, So:348 R:305 with picture Satellite, Artificial (Launching the satel-Rock climbing Dampler, William, D:18 lite), S:98 Mountaineering, M:672 Defoe, Daniel (His writings), D:84 Space exploration (Launch vehicles), Rock crystal luan Fernández, J:153 So:132 with pictures; (Overcom-Quartz (Properties and uses), Q:9 Novel (The first English novelists), ing gravity) So:133; (The dawn of Rock drawing N:312 the space age) So:140 Writing, W:423 Selkirk, Alexander, S:245 Rocket engine **Rock festival** Wyss family, W:427 Aeroplane, A:95 Rock music (Growing social signifi-Robinson, Michael Massey (Australian Guided missile (The engine), G:407 cance), R:313 Rocket into Interplanetary Space, Rock-fill dam Australia, Literature of (The develop-The book by Goddardl Dam (Kinds of dams), D:12 ment of poetry), A:830 Space exploration (Early dreams of **Rock-fish** Robinson, Roland [Australian writer] space flight), So:140 Bass (Salt-water bass), B:142 Australia, Literature of (Modern short Rocket launcher Rock garden stories), A:832 Artillery, A:613 with pictures; (Kinds of Gardening (Kinds of outdoor gardens), Robot, R:305 with picture artillery) A:614 G:35 Automation, A:873 with picture Bazooka, B:163 with picture **Rock hammer** Capek, Karel, C:142 Rocket (Military use), R:318 Rock (Rocks as a hobby), R:309 Computer (Other uses), Ci:255 **Rocket motor** Rock music, R:311 Ammunition (Self-propelled ammuni-Electricity picture on, E:166 Dancing picture on, D:21 Exploration (Space exploration), E:428 tion), A:336 Music (Popular music), M:734 Rocket-powered aeroplane Factory (Location and design), F:5 Popular music (Pop music), P:684 apan picture on, 1:51 Rocket, R:323 Rock 'n' roll Remote control (History), R:213 Rocket propellant Rock music, R:311 Science fiction (The 1900's), S:151 Rocket, R:317 Rocket Ship Galileo (book by Heinlein) Rock of Robotics See Petroleum Heinlein, Robert A., H:135 Robot, R:305 with picture Rock painting lart Rocket, Model, R:323 with picture Robson, Dame Flora (British actress), Australia, Art and architecture of (Ab-Rocket (steam locomotive), R:325 R:306 original arts), A:781 Rockhampton [Australial, R:325 Robusti, Jacopo Rock phosphate See Tintoretto Fertilizer (Phosphorus fertilizers), F:59 Rockingham Northamptonshire picture on, N:266 Roc liegendary birdl, R:306 Rock salmon [fish] Rockingham, Marquess of (English no-Elephant bird, E:208 Dogfish, D:241 Rocha, Glauber (Brazilian film director), blemani, R:325 Rock salt Rocks (Australia), R:325 R:306 Rock (Chemical sediments), R:308 Rockwell, Norman (American Illustra-Rochambeau, Comte de [French gen-Salt (Salt from the ground), S:56 torl, R:325 with picture and portrait erall, R:306 with portrait **Rock video** Rochas, Beau de (French inventor) Rocky Islands Jackson, Michael, J:7 Europe picture on, E:371 Petrol engine (Development of the pet-Rock music, R:314 Rocky Mountain goat, R:326 rol engine), P:334 Rock wren Animai picture on, A:382 Rochdale [England], R:306 Wren, W:414 Roche, Stephen (Irish cyclist), R:306 Goat (Wild goats), G:221 Rockall [North Atlantic], R:315 Rocky Mountain pika with picture "Rocked in the Cradle of the Deep" Animai picture on, A:382 Rochelle salt (poem by Willard) Rocky Mountain spotted fever Salts, S.SR Willard, Emma Hart, W:254 Tartaric acid, T:49 Rickettsia, R:272 Rockefeller, John Davison (American Rochester, Earl of (English poet), R:306 Tick, T:239 businessman), R:315 Rocky Mountains [North America], Rochester upon Medway [England], Philanthropy, P:364 R:326 with pictures and map R:307 Rockefeller, John Davison III [Ameri-See also list of Related Articles Kent (Local government), K:219 can philanthropistl, R:315 Rochford [England], R:307 North America, N:250 Rockefeller, John Davison IV [Ameri-United States, U:210 Essex (Local government), E:332 can political leader), R:315 Rococo (art), R:328 Rock Around the Clock" [rock song] Rockefeller, John Davison, Jr. Ameri-See also list of Related Articles Rock music (The emergence of rock 'n' can businessmanl, R:315 Architecture, A:528 with picture roll), R:311 Rockefeller, Nelson Aldrich i American

political leaderl, R:315

Rocket | steam | locomotive|

Rock barnacle

Barnacle picture on, B:113

Rock, R:307 with pictures

France, F:402	Roebuck [ship]	Novel (Later European narratives),
Furniture, F:500	Dampier, William (Voyage to New Hol-	N:311
Germany picture on, G:122	land), D:19	Spanish literature (The 1400's), So:193
Painting, P:66 with picture	Roemer, Olaus (Danish astronomer)	Roland (legendary figure), R:332
Rod [fishing]	Eclipse (The study of the eclipses),	Roland de la Platière, Marie Jeanne
Fishing (Fishing equipment), F:183	E:55	French public figure , R:332
with picture	Light (The speed of light), L:264	Girondists, G:172
Rod [unit of measure], R:329	Roentgen, Wilhelm Conrad German	Role conflict
Rod puppet	physicistl, R:331	Social role, So:5
Puppet, P:864	Invention (The late 1800's), 1:318	Rolfe, John (American settler), R:333
Rodent, R:329 with picture	Medicine (The medical revolution),	Pocahontas, P:607
See also list of Related Articles	M:317	Roll
Animal (A table of animal intelligence),	X гауs, X:429	Aeroplane (Basic movements and con-
A:401	Roentgen [unit of measure]	trols), A:97
Rat, R:141	Ion (Producing ions), 1:326	Inertial guidance (How Inertial guid-
Rodenticide	Physics (The beginning of modern	ance works), I:227
Pesticide, P:319	physics), P:476	Roll bonding
Rodeo (sport), R:329	Roentgen ray	Welding (Deformation bonding),
Rodeo [ballet]	Physics picture on, P:477	W:143
Copland, Aaron, Cl:340	Roentgen, Wilhelm Conrad, R:331	Holl mill
De Mille, Agnes, D:100 with picture	X ray, X:429	Rubber, R:434
Rodgers, Calbraith P. American inven-	Roentgen, Wilhelm (German physicist)	Roll-on/roll-off ship
torl	Electronics (The development of elec-	Containerization (Containers and con-
Aeroplane (Other pioneer planes and	tronics), E:192	tainer ships), Ci:315
fiters), A:80	Roethke, Theodore (American poet)	Ship, S:378 with picture
Rodgers, Richard [American com-	American literature (Poetry), A:319	Rolland, Romain (French author), R:333
poser), R:330	Rogallo, Francis M. (American Inven-	Roller (bird), R:333 with picture
Hammerstein, Oscar, II, H:32	tori	Roller lengineering)
Hart, Lorenz, H:69	Kite (The delta kite), K:291	Construction equipment (Other con-
Musical comedy (Musical comedy ma-	Rogers, Captain Woodes [Bahamian	struction machinery), Cl:310
tures), M:739	governor general	Roller bandage
Rodgers, William (British politician)	Bahamas (History), B:30	-
Social Democratic Party (SDP) (History),	Rogers, Carl R. [American psychologist]	Bandage, B:75 Roller bearing
So:4	Personality (Ratings and self-reports),	Bearing (Rolling-contact bearings),
Rodin, Auguste [French sculptor], R:331	1-299	
with picture	Psychology (Modern psychology),	B:173 with picture
France (Romanticism), F:402 with pic-	P:830	Roller coaster
ture	Psychotherapy (Humanistic psycho-	Surfing, So:436
Impressionism (Music, literature, and	therapy), P:832	Roller dam Dam (Other types of dams), D:13
sculpture), 1:47	Rogers, Ginger	
Sculpture (Texture), S:192; (European		Roller hockey Roller skating (Competitive roller skat-
sculpture) S:212 with picture	Dancing (Dancing since 1900), D:28	
Rodney, Baron (English naval com-	Film industry (Best performance by an actress), F:97	ing), R:334
manderl, R:331		Roller mili
Rodney, George Brydges	Rogers, John [American sculptor]	Paint (How paint is made), P:24
See Rodney, Baron	Sculpture (American sculpture), \$:214	Roller printing
Rodó, José Enrique (Uruguayan philos-	Rogers, Robert	Textile (Finishing the fabric), 7:173
opherl, R:331	Rogers' Rangers, R:332	Roller skate
Latin-American literature (Modernism),	Rogers, Will [American humorist],	Roller skating, R:333 with picture
L:96	R:332	Roller skating, R:333 with pictures
Uruguay (The arts), U:282	Rogers' Rangers, R:332	Roller-spinning machine
Rodrigo Díaz	Rangers, R:135	Industrial Revolution (Spinning ma-
See Cid, The	Roget, Peter Mark British doctor and	chines), I:213
Rods and cones	scholarl, R:332	Rolling-ball pen
Colour (The roles of the eyes and	Roget's Thesaurus of English Words	Pen, P:250
brain), Ci:193	and Phrases (book)	Rolling
Eye (The retina), E:437 with diagram	Roget, Peter Mark, R:332	fron and steel, 1:395 with picture
Perception (Receptors), P:277	Roggeveen, Jacob [Dutch explorer]	Rolling-contact bearing
Roe	Easter Island, E:45	Bearing, B:173 with picture
	Western Samoa (History), W:192	Polling friction
Fish (Reproductive system), F:170	Rogue Herries [book by Walpo[e]	Friction (Kinds of friction), F:459
See also Caviar; Spawn	Walpole, Sir Hugh Seymour, W:28	
Roe, Creeve (Australian writer)	Rogun Dam [Tajikistan], R:332	Rolling mill Industrial Revolution (Coal and iron),
Australia, Literature of (Other poetry),	Dam (table), D:13	I:213
A:831	Roha [city, Ethiopia]	Rolling Plains
Roe, J. S. [Australian explorer], R:331	Ethiopia (The Zagwé dynasty), E:340	Texas (Land), T:167
Roe, Sir Alllott Verdon- lEnglish inven-	Rohini [satellite]	Rolling stock
tori, R:331	Satellite, Artificial (Important satellites),	
Roebling opal	S:96	Railway, R:100 Rolling Stones (English rock band),
Opal, 0:454	Rojas, Fernando de [Spanish dramatist]	R:334

Rojas, Fernando de [Spanish dramatist]

R:334

Romanticism 589 Ireland, History of picture on, 1:369 Romanesque art Europe (Medieval art), E:368 Painting (Romanesque painting), P:52 Romanesque cathedral Cathedral (Architectural history), C:264 Romanesque painting Painting, P:52 Romanesques, Les [play by Rostand] Rostand, Edmond, R:404 Romania, R:349 with pictures and maps Aviation (Aircraft nationality marks), Bucharest, B:607 with picture Europe (table), E:359 Flag picture on, F:209 Hungary (Between world wars), H:382 Moldova, M:528; (Romanian and Soviet rule) M:530 Napoleon III (Foreign affairs), N:24 Romanoff and Juliet [work by Ustinov] Ustinov, Sir Peter, U:286 Romanov [Russian history], R:359 See also list of Related Articles Russia, R:486 Romanov, Grigoriy Vasilyevich Soviet political leaderl, R:359 Romans (people) Algeria (History), A:265 Halloween, H:24 Hampshire (History), H:36 Rome, Ancient, R:371 Romans, Epistle to the, R:359 Romansh [language] Switzerland (Language), So:494 Romantic ballet Ballet, B:56 with pictures Romantic comedy [literature] Drama (Comedy), D:285 Romantic School, The [work by Heine] Heine, Heinrich, H:135 Romanticism, R:359 See also list of Related Articles with the Romanticism article Ballet (Romantic ballet), B:56 Classical music (The romantic era), Classicism (The qualities of classicism), Ci:65 Criticism (History of literary criticism), CI:442 Dancing (The rise of romanticism), D:27 Drama, D:297 Europe (Art since the Renaissance). E:369 France, F:402 French literature, F:448 German literature, G:109 Italian literature, I:446 Novel, N:311; (The 1800's) N:312 Орега, 0:464 Painting, P:68 Poetry (Romantic poetry), P:616 Realism, R:159 Rousseau, Jean Jacques (His literary in-

Scandinavian literature (The Golden Agel, S:120 Sculpture (European sculpture), St212 Romanticism

Literature, L:315

Romany lianguage

Czech Republic (People), Cl:517 Gypsies (Culture), G:443

Romany Rye, The book by Borrowl Borrow, George, B:472

Romberg, Sigmund (American composeri, R:360

Heidelberg, H:134

Musical comedy (The first musicals), MATER

Rome, R:361 with pictures and maps See also list of Related Articles City (Ancient cities), Cli22 with picture

Rome, Ancient, R:371 with pictures and

See also list of Related Articles; Roman Empire; Roman Republic Calendar (The Romans), C:35 Citizenship (History), Cirl6 Doll (Ancient times), D:244 Education (Ancient Roman education), E:91

Etruscans (Influence on Rome), E:344 Europe (Ancient Greek and Roman art),

Freedom (History), F:434 Furniture, F:494 with pictures

Mathematics (The Greeks and Romans), M:257

New Year's Day (Early customs), N:139 Novel (Ancient Greek and Roman narratives), N:311

Numeration systems (The Roman numeral systemi, N:349

Painting (Roman painting), P:47 with picture

Palestine (Roman rule), P:103 Praetor, P:735

Prnetorian Guard, Pr735

President (History), P:768

Science, 5:144

Sculpture (As part of architecture), 5:189: (Roman sculptors) 5:193

Ship (Roman ships), 5:366 with pic-

Transportation, T:351

World, History of the (The Romans), W:339 with picture

Rome, University of, R:384

Rome (Schools), R:365 with picture

Rome-Berlin Axis (World War III Axis, A:895

Italy (World War II), 6:470

Rome Beyond Imperial Frontiers (book by Wheeler)

Wheeler, Sir Mortimer, W:227

Romeo and fullet [play by Shakespeare] Prologue, P:799 Shakespeare, William, Sc312 with pic-

Römerbrief, Der (book by Barth) Barth, Karl, B:121

Romero, Oscar Arnuffo larchbishop of El Salvadori, R:384

Rommel, Erwin (German field marshal),

Montgomery, Bernard Law, M:578 World War II (In northern Africa),

W:390

Romney, George British painterl, R:384 with portrait

Romney, Hythe, and Dymchurch Railway

Kent (Places to visit), K:221

Romola (book by Ellot)

Eliot, George, E:211

Savonarola, Girolamo, S:115

Romulo, Carlos Pena (Filipino diplomati. R:385

Romulus and Remus, R:385

Mythology, M:759 with picture Rome, Ancient (History), R:377; picture on R:380

Romulus the Great iplay by Dürren-

Dürrenmatt, Friedrich, D:356

Rona Ishipi

Polly Woodside, P:637

Ronald Muwenda Mutebi II (king of Bugandal

Royal families (Africa), R:422 with pic-

Roncalli, Angelo Giuseppe

See John XXIII

Ronda (city, Spain)

Spain picture on, So:165

Rondo (music), R:385

Classical music forms (Simple forms),

Ronsard, Pierre de lFrench poetl,

French literature (The Plélade), F:446 Roof, R:385 with pictures

House, H:324 Shelter, S:349

Roof rat

Rat (The body of a rat), R:141

Roolberg mountains (South Africa) Free State, F:431

Rook (bird), R:386 Rook (chass)

Chess (The board and the men), C:382 with diagram; (The moves) C:383 Rooke, Sir George (British admiral),

R:386

Rookery (zoology)

Penguin (Habits), P:258; picture on P:257

Rook, R:386

Seal (Seal rookerles), S:226

Room air conditioners

Air conditioning, A:193; (Choosing a room air conditioner) A:193; picture on A:190

Room-and-pillar mining

Coal (The room-and-pillar system), Ct:125

Mining, M:493

Room at the Top (book by Braine) Braine, John, B:520

Room of One's Own, A book by Woolf

Woolf, Virginia, W:313

Room with a View, Albook by Forster Forster, E. M., F:363

Roosevelt [ship]

Peary, Robert Edwin (North Pole journevs), P:237

Roosevelt, Eleanor American states woman), R:386 with portrait Roosevelt, Franklin Delano (Disabled by polio), R:387

Roosevelt, Franklin Delano U.S. presdent), R:387 with pictures

See also list of Related Articles Camp David, C:62

Einstein, Albert (Nuclear weapon research), E:130

Handicapped, H:44

New Deal, N:109

Nuclear energy (The development of nuclear weapons), N:329

President of the United States (table). P-769

United States, History of the (Roosevelt, recovery and reform, U256 Yalta Conference, Y:438

Roosevelt, Nicholas I. (American invetorl. R:391

Roosevelt, Theodore (U.S. president) R:391 with portrait

Conservation picture on, Ch301 Monroe Doctrine, M:571

Nobel Prizes (Peace), N:233 Panama Canal (The United States and

the canal), P:124 with picture Rough Riders, R:411

United States, History of the (Federal legislation), U:255

Roosevelt and Hopkins: An Intimate History (book by Sherwood) Sherwood, Robert Emmet, \$:356

Roost

Bird (Sleeping and roosting), \$344

Root lanatomyl

Hair (The root and shaft), H:11 Teeth (Kinds of teeth), T:90; (Pulp) TS

with diagram Root (botany), R:392 with diagrams Plant, P:553 with pictures

Tree, T:378; picture on T:377 Root (mathematics), R:394

Algebra (Statements and equations) A:252; (table) A:252

Logarithms (Finding a root), L361 Root, Elihu American statesmani 2001

Nobel Prizes (Physics), P:233, pontal on N:234

Root, John Wellborn | American and tectl. R:394

Architecture (Early modern architecture in America), A:534 Burnham, Daniel Hudson, 8:962

Root canal

Teeth (Pulp), T:91 with diagram

Root canal therapy

Dentistry (Endodontics), D:121 Teeth (Performing root canal therapy) T:94

Root rot

Alfalfa (Diseases and pests), A2A

Rootknot nematode

Gall, Gal4 with picture assets [play by Wesker] Wesker, Arnold, W:154 Boots: The Saga of an American Family (book by Haley) American literature (Fiction and other prosel, At320 Haley, Alex, H:21 Television (Recent developments), teets and Branches [poem by Duncan] Duncan, Robert, D:348 tootstock Apple (Planting and caring for apple trees), A:478 fruit (Growing fruit), F:473 Grafting, G:282 Lemon (Growing lemons), L:166 tope, Ri394 with picture Knots, hitches, and splices, K:307 Macramé, Mt24 torke's Drift See Anglo-Zulu War Rorqual Whale, W1206 forschach test Mental illness (Methods of treatment), M:354: picture on M:353 Personality (Projective tests), P:299 Psychology (Systematic assessment), Testing (Personality tests), T:163 Resalle Imusic by Porter! Porter, Cole. P:696 leamund |English public figure), 8,735 tosario [Argentina], R:396 Resery ireligion), R:396 lesas, Juan Manuel de Argentina (Forming a national governmont), A:362 Pedro II. Pr242 Resclus, Quintus |Roman actor|, R:396 Rescommon Irelandi, R:396 with pichire and map Arms picture on, A:588 lete [plant], R:397 with pictures See also list of Related Articles Rose water, R:400 Rese apple Jambu, J:22 line chafer (insect), R:400 Rose moon Portulaca, P:709 Rose of Dutcher's Coally book by Car-Garland, Hamlin, Ga44 less of Jericho Resurrection plant, R:243 with picture lose of Lima, Saint, R:400 Rose of Sharon Hibiscus, Hr190 Seint-John's-wort, S:35 with picture has quartx Gem picture on, G:73 Quartz (Types), Q:B

bear red city

See Petra

Rose stitch

R:401 Rosette R:402 M:463

Ross, Wondy (South African sculptor) Crocheting, Ch447 Sculpture (Environmental sculpture), Rose Tattoo, The iplay by Williams Williams, Tennessee, W:258 Ross and Cromarty (Scotland), R:403 Rose water, R:400 Ross Dependency (Antarctical, R:403) Rose window Ross Ice Shelf Iregion, Antarctical Stained glass (Technical Improve-Amundsen, Roald (The race to the ments), 5o:264 Window W:271 South Pole), A:345 Rose, Ernestine Potowski i American Antarctica (Early exploration), A:442 social reformerl, R:399 Rose, Lionel | Australian boxerl, R:400 Glacier picture on, G:174 Rose See with portrait Pacific Ocean (Coastline and Islands), Boxing (World titles), B:498 P:14 Roseau (Dominical, R:400 Rosse, Earl of lirish astronomer), R:403 Dominica, D:255 Rosebery, Earl of British political with picture Rossendale llocal government district, leaderl, R:400 Englandi, R:404 Rosebud, Battle of the Rossetti, Christina Georgina (English Indian wars (The Sloux wars), 1:176 poetl, R:404 Rosefish, R:400 Rossetti, Dante Gabriel (English artist), Rosella (bird), R:400 with picture R:404 with picture Rose-Marie Imusical by Hammerstein Ballade, B:45 Hammerstein, Oscar, II, H:32 Pre-Raphaelite Brotherhood, Pt762, Rosemary, R:401 picture on P1763 Rosenberg, Alfred Nazi philosopheri, Rossini, Gioacchino Antonio Italian composeri, R:404 Hitler, Adolf (Rise of the Nazis), H:228 Opera (Grand opera), On464, (Harber of Rosenberg, Ethel Greenglass (Ameri-Seville, The O.467 with picture can public figurel, R:401 with pic-Rossiare Harbour Wexford picture on, W:202 Rosenberg, Julius (American public fig-Rosson, isabella (Australian teacher). urel, R:401 with picture Rosenkavaller, Der lopera by Straussi R:404 Rostand, Edmond IFrench playwrighti, Opera, 0:473 with picture, (Richard R:404 Straussi 0:465 Napoleon II. N:23 Rosenquist, James (American artisti Rostock | Germanyl, R:408 Pop art, P:672 Rostov-on-Don (Russia) Rx408 Roses, Wars of the Rostropovich, Matislav I aopoidovich See Wars of the Roses |Azerbaijani cellist| R:405 Rosetta stone, 8:401 with picture Rostrum (Australian organization), Hieroglyphics (Deciphering hieroglyphic writing), H:195 Roszak, Theodore (American sculptor). R:405 with picture Weed (How weeds grow), W:131 Rot Iplant diseasel R:405 Rosewall, Ken Australian tennis Cotton (Care during growth), Ch365 playerl, R:402 Rotary Club Rosewood (tree), #:402 Rotary International, Ro406 with pic Wood picture on, W:298 PENERS Rosh Ha-Shanah, R:402 Rotary dial Feasts and festivals (in Judaism), Fc39 Telephone (The dialling mechanism), Judaism (Holy days and festivals), Jr136 Rosicrucian Order, R:402 Rotary drilling Magic (During the Middle Ages), M:46 Drill (Rock drills) D:300 Rosin, R:402 Gas (Producing gas) Gd1 Resin, Rt238 Petroleum (Methods of drilling), P.343 Ross [play by Rattigan] Rotary engine R:405 Rattigan, Sir Terence, R:144 Petrol engine (Kinds of petrol engines), Ross, Barnaby See Queen, Ellery Rotary International, 8:406 with pic-Ross, Betsy (American seamstress). ture Rotary press Ross, Robert Imarine commander! Printing P:783 Phillip, Arthur (The marines), P.418 **Rotary pump** Ross, Sir James Clark iBritish exploreri, Pump Pi#54 Retary screen printing Antarctica (Early exploration), A1442 Textile (Finishing the fabric), Tr173 Exploration (table), Es427 with maps Rotary wing aircraft Ross, Sir John British explored, 8:403 Autogiro, A:870 with picture Northwest Passage, N:290 Helicopter (Lift), Hr139 with diagrams Ross, Sir Ronald (British doctor), R:003

Rotation V/STOL. V:428 Rotation Astronomy (Why the stars seem to move). A:688 Earth (How the earth moves), E:18 with diagram Moon, M:590 Planet, P:535 with diagrams Rotation of crops Cropping system, Ci:453 Rotational axis See Rotation Rote learning Education (Methods of teaching), E:89 Rotenone linsecticidel, R:406 Insecticide (Botanical insecticides), 6264Jicama, J:118 with portrait Rothenstein, R:407 rice [British art historian] Rothenstein, R:407 painterl Rothenstein, R:407 See Harmsworth, Harold Sidney R:407 with picture Rothschild (Mayer Amschel), R:406 Rothschild (Guy de), R:408 Rothschild, R:408 banker] Rothschild (Mayer Amschel), R:408 Rothschild, Mayer Amschel, R:408 leader) Rothschild, R:408

Roth, Mark [American bowler], R:407 Roth, Philip (American novelist), R:407 Rothenstein, Michael (British painter) Rothenstein, Sir John Knewstub Mau-Rothenstein, Sir William British Rother (England), R:407 Rotherham [England], R:407 Rothermere, Viscount Rothko, Mark [American painter]. Rothschild (European bankers), R:408 Rothschild, Mayer Amschel German Rothschild, Evelyn de Rothschild, Guy de [German banker] Rothschild, James Mayer [German Rothschild, Karl Mayer (German Rothschild, Lionel (British political Rothschild, Mayer Amschel (German bankerl Rothschild, R:408 Rothschild, Nathan Mayer [1840-1915] (British political leader) Rothschild, R:408 Rothschild, Nathan Mayer [1777-1836] [German banker] Rothschild, R:408 Rothschild, Salomon Mayer [German banker] Rothschild (Mayer Amschel), R:408 Rotifer [microorganism], R:408 with pic-

ture

Animal (A classification of the animal

kingdom), A:414

Rotifera

Rotogravure [printing] Offset, 0:415 Printing (Gravure presses), P:785 Rotor Electric generator (Parts of a generator). E:148 Electric motor (Parts of an alternating current (AC) motor), E:156 Electric power (Sources of electric power), E:157 Ignition (The conventional electronic ignition system), 1:29 Rotary engine, R:405 with diagrams Turbine (How turbines work), T:447 Rotorua [New Zealand], R:408 with picture Rotterdam (Netherlands), R:409 with picture Netherlands, N:88; (World War II) N:100 with picture Rotting Hemp, H:149 Rottnest Island (Australia), R:409 Western Australia (Visitor's guide), W:176 Rottnest pine, R:409 Rottweiler [dog], R:409 with picture Rouault, Georges (French artist), R:410 Stained glass (Decline and revival), Rouble (money), R:410 with picture Rouen [duck] Duck picture on, D:340 Rouen (France), R:410 with picture Rough-legged buzzard Buzzard, B:694 with picture Rough Riders (U.S. history), R:411 Roosevelt, Theodore (From Rough Rider to president), R:391 Rough timber Timber (Kinds of timber), T:248; (Grading timber) T:250 Roughage feed Feed, F:48 Rougon-Macquart, The book by Zolal French literature (Naturalism), F:449 Zola, Émile, Z:501 Roulette (game), R:411 Roulette [stamp collecting] Stamp collecting (Separations), So:271 Roumania See Romania Round Ammunition, A:334 Boxing (Time periods), B:495 See also Cannon Round-leaved sundew Sundew, So:424 Round pompano [fish] Pompano, P:664 Round Table, R:411 See also list of Related Articles Round towers [ireland], R:412 with picfrine Round window Ear (The vestibule), E8 with diagrams

Round, Dorothy Edith (British tennis

player], R:411

Roundabout

Road (Intersections), R:296 Rounders [game] Baseball, B:130 Doubleday, Abner, D:272 Roundhead Civil War, English, Ct:44 England (The Civil War), E:278 Hairdressing (The 1600's), H:12 Roundway Down, Battle of Civil War, English (The first phase), Ch45 Roundworm, R:412 with picture Animal (A classification of the animal kingdom), A:414 Cat (Veterinary care), C:253 Disease (Other infectious diseases), D:191 Dog (Medical care), D:238 SeeNematoda, N:73 Parasite (Parasites that feed on people and animals), P:171 Worm, W:411 with pictures Rous, Francis Peyton | American medical researcherl, R:412 Rousseau, Judge of Jean-Jacques [work by Rousseau] Rousseau, Jean-Jacques (Later life), Rousseau, Henri [French artist], R:413 Painting (Postimpressionism), P:77 with picture Rousseau, Jean-Jacques (French philosopher), R:413 with portrait French literature (The Age of Reason), F:448; (The preromantics) F:448 Political science (Liberalism), P:654 Rameau, Jean-Philippe, R:131 Romanticism (Romanticism and society), R:360 Rousseau, Théodore [French artist] Barbizon School, B:107 Painting (Realism), P:71 Rouvroy, Claude Henri de Saint-Simon, Comte de, S:43 Rove beetle Beetle, B:198 with picture Roving Cotton (Spinning), Cl:387 with picture Textile (Making the yarn), T:172 Wool (Making yarn), W:311 Rowan tree Mountain ash, M:670 Rowcroft, Charles [Australian writer] Australia, Literature of (Early prose), A:830 Rowing, R:414 with picture Olympic Games table on, O:439 Rowland, Daniel (Welsh religious leaderl, R:415 Rowland, Sir James | Australian political leaderl, R:415 Rowlandson, Thomas English artistl, Rowntree, Benjamin Seebohm [English social reformeri, R:415 Rowntree, Joseph (British businessmanl, R:415 Rows (shopping arcade)

Chester, C:385

Rowse, A. L. [English historian], R:415 **Royal National Theatre** Humperdinck, Engelbert, H:371 Roxas y Acuña, Manuel [Philippines Royal Commission, R:417 London (Arts), L:369 Shakespeare, William (Modern perpolitical leader), R:415 **Royal Deeside** Philippines, History of the (The rule of Aberdeen, A:10 formances), S:327 Royal Dutch Airlines [airline] Theatre (United Kingdom), T:205 with Roxas), P:412 Emburgh liocal government districti. picture Airline (table), A:208 United Kingdom, Arts of the (Theatre Royal Dutch/Shell Group, R:417 R:415 companies), U:92 with picture Borders Region (Local government), Manufacturing (table), M:168 Royal Easter Show [Australia], R:417 Royal Navy 0:467 Navy (The world's major navies), N:58 ioxburghshire [Scotland] with picture United Kingdom, Armed services of Royal Exchange (England), R:417 Borders Region, B:466 the, U:66, U:66 with pictures Roxby Downs [Australia], R:415 Gresham, Str Thomas, G:371 Royal New Zealand Society for the key, Ram Mohan findian social and re-Royal families, R:418 with pictures Health of Women and Children Royal Family, The play by Kaufmanl ligious reformer!, R:415 King, Sir Truby, K:255 Kaufman, George S., K:202 Hinduism (Hindu reform movements), **Royal Niger Company** Royal Family of the United Kingdom, H:215 Nigeria (British rule), N:213 R0423 Roy, Rob Royal Palm See also list of Related Articles See Rob Roy Palm picture on, P:107 Civil List. Cl:40 Royal (title) Royal Pavilion |Brighton, England| Elizabeth II (The royal family), E:214 Crown, The (The powers of the Brighton, B:571 with picture Crown), Cl:459 Sussex picture on, So:447 England (Traditions), E:266 Royal Academy of Arts, R:416 **Royal Prerogative** Royal Family of the United Kingdom Kauffmann, Angelica, K:201 Crown, The (The powers of the (Royal houses), R:425 Reynolds, Sir Joshua, R:248 Crown), Cl:459 Royal fern Royal Academy of Dramatic Art Royal Family of the United Kingdom Fern, F:56 with picture Theatre (United Kingdom), T:205 (The queen and Parliament), R:423 Royal Festival Hali Royal Air Force Royal sculpture London (Arts), L:369 Air force (The United Kingdom's Air Sculpture (Egyptian), S:196 with pic-Royal Flush [book by Irwin] Force), A:197 ture; (African sculpture) 5:202 irwin, Margaret, E410 Battle of Britain, B:157 with picture with picture **Royal Flying Doctor Service** United Kingdom, Armed services of Royal Shakespeare Company Flying Doctor Service, F:280 the, U:67 with pictures Shakespeare, William picture on, Royal Geographical Society, R:426 World War It (The Battle of Britain), S:312 Royal Greenwich Observatory W:385 Theatre (United Kingdom), T:205 Greenwich Observatory, Royal, G:365 Royal and Ancient Golf Club Royal Society, R:428 Observatory (History), 0:382 Fife Region (Recreation), F:72 Banks, Sir Joseph, B:96 Royal Hibernian Academy Golf (Beginnings), G:250 United Kingdom (Science and technol-Ireland (Arts), 1:356 Saint Andrews, S:28 with picture ogy), U:64 Royal Household of the United King-Scotland (Recreation), S:161 Winthrop, John, Jr., W:277 dom, R:426 Royal Assent Royal Society for the Prevention of Royal Institution, R:427 Royal Family of the United Kingdom **Cruelty to Animals** Royal Irish Academy, R:427 (The queen and Parliament), R:423 See RSPC Royal Australian Air Force Royal jelly Royal Society for the Protection of Bee (Life of the honey bee), B:186 Australia, Armed services of, A:778 Birds (RSPB) Royal Life Saving Society, R:427 Bird (Bird study and protection), B:354 Royal Australian Mint, R:416 with pic-**Royal Marines** Royal spoonbill Marine (Marines around the world), Canberra (Places to visit), C:116 Spoonbill, So:237 with picture M:209 with picture Royal Australian Navy Royal tennis (game), R:428 United Kingdom, Armed services of Royal throne [Cameroon] Australia, Armed services of, A:777 the, U:66 with pictures Royal Melbourne Show [Australia], Royal Automobile Club (RAC), R:416 Royal Ballet R:427

Sculpture (Colour), S:192; (Royal and public sculpture) \$:202 with pic-Royal Mile (Edinburgh) Royal Ulster Constabulary (RUC) Ballet (Ballet in Europe), B:57 Lothian Region (Places to visit), £:396 Police (United Kingdom), P:642 De Valois, Dame Ninette, D:144 Royal Military College Dolin, Sir Anton, D:242 **Royal Worcester Pottery** Canberra (Places to visiti, C:116 Hereford and Worcester picture on, Fonteyn, Dame Margot, F:292 Royal Mint, R:427 with picture Royal Botanic Garden (Kew, England) Mint, M:503 with picture See Kew Gardens Royalists Civil War, English, Cl:43 with pictures Royal Botanic Gardens (Edinburgh) Royal moth

Moth (Glant silk worm moths and royal moths), M:643 with pictures Royal National Eisteddfod [custom]

Edinburgh (Art galleries, libraries, and

Royal Canadian Mounted Police

(RCMP), R:416 with picture

Royal Children, The lopera by Hum-

Clothing picture on, Ci:93 Police (Canada), P:641 with picture

museums), E:79

Royal burgh

Burgh, B:650

perdinckl

England (The Civil War), E:278

lated Articles

Royalty [income] Petroleum (table), P:336

See King; Queen and their lists of Re-

Publishing (Acquiring the manuscript),

Recording industry (Releasing the re-

Wales (Way of life), W:11 Royal National Institute for the Blind

(RNIB) Blindness (Education and training),

Royal National Lifeboat institution

Lifeboat, L:253

Rubel, Ira (American papermaker)

Cerebral palsy (causes), C:328

Deafness (Birth defects), D:56

Mental retardation (causes), M:357

ing), P:787

See German measles

Rubella [disorder], R:439

Disease (table), D:190

Rubella

Printing (Developments in platemak-

Rubens, Peter Paul [Flemish painter], cording), R:167 Theatre (Acquiring a script), T:193 R:440 with pictures Antwerp (Chief buildings), A:467 Writing (Nonfiction), W:422; (Scriptwriting) W:422 Baroque (Baroque painting), B:116 Belgium (The arts), B:218 Royaume de Belgique Daniel, Book of picture on, D:31 See Belgium Drawing (History), D:304; picture on Royce, Sir Henry [British businessman], See also Charles I [king of England] Rozier, Jean F. Pilâtre de French bal-Jesus Christ picture on, J:100 Aeroplane (First manned flights), A:76 Painting (Other baroque masters), P:62 with picture Rozwi (people) Zimbabwe (History), Z:496 Van Dyck, Sir Anthony, V:310 RSPCA, R:428 Rubeola RSPCC See Measles Rubicon friver, Italyl, R:441 See NSPCC Rome, Ancient (Breakdown of the re-Ru (symbol) public), R:380 Ruthenium, R:505 Rubidium (chemical element), R:441 RU-486 [drug] Abortion (Abortion methods), A:15 Rubinstein, Anton Gregor (Russian pi-Ruahines (mountains, New Zealand), anist], R:441 Rubinstein, Arthur (Polish-born pian-Ruanas (clothing) istl, R:441 Colombia (Clothing), Cl:171 Ruble [money] Ruanda See Rouble Rwanda, R:506 Rubruck, William of Ruanda-Urundi, R:428 **Exploration (East-West contact** Burundi (History), B:666 resumes), E:419; (table) E:419 Rwanda, R:506 Ruby (geml, R:441 with picture Rub al Khali Corundum, Cl:368 Asia (Deserts and plains), A:646 with Gem (Cutting and polishing), G:71; picmap ture on G:73 Saudi Arabia, S:107 Laser picture on, L:74 Rubaiyat ipoem by Omar Khayyaml, Sapphire, S:86 Ruby spaniel (dog) FitzGerald, Edward, F:196 King Charles spaniel, K:255 Omar Khayyam, 0:450 Ruby-throated hummingbird Rubber, R:429 with pictures and map Bird picture on, B:328 See also list of Related Articles Ruby, Jack (American public figure) Goodyear, Charles, G:253 Kennedy, John Fitzgerald (The death of Invention (Creative insight), 1:313 Oswald), K:217 Silicone (Uses), S:421 Oswald, Lee Harvey, 0:516 Rubber bridge [cards] Warren Report, W:40 Bridge, B:567 Rudbeckia [plant], R:442 Rubber bullet Rudd, Steele [Australian writer] Ammunition (Riot control ammuni-Australia, Literature of (Other poetry), tion), A:335 Rubber plant, R:439 with picture Rudd, Steele (Australian author), R:442 Rubber plantation Rubber (The first plantations), R:430 Aeroplane (Basic movements and con-Rubber tree trols), A:97 Indonesia picture on, I:190 Aeroplane (The controls and instru-Rubber [The rubber tree], R:432 ments), A:93 Rubbia, Cario (Italian physicist) Aeroplane (The tail assembly), A:92 CERN. C:329 Airship (How airships fly), A:217 Nobel Prizes (Physics), N:228 Helicopter (Piloting a helicopter), Physics (Physics today), P:478 Rubbra, Edmund [English composer], Invention (The Middle Ages), 1:315 Sailing (Hull), S:22

Ship, S:384; (The cog) S:367

Gilbert and Sullivan, G:158

Duck picture on, D:339 Ruddy turnstone [bird]

T:353

Ruddy duck (bird)

Turnstone, T:471

livani

Transportation (The Middle Ages),

Ruddigore lopera by Gilbert and Sul-

Austria (The Habsburgs), A:865 Germany (The Holy Roman Empire), G:131 Habsburg, House of, H:3 Rudolph, Lake See Lake Turkana Rudolph, Paul (American architect), R:442 with picture Architecture (Architecture today), A:538 Rue (herb), R:442 Ruff [bird], R:442 with picture Ruff (clothing) Clothing (The Renaissance), Cl:102 with picture Ruffed grouse (bird), R:442 with picture See also Grouse Ruffed lemur Lemur, L:167 Primate picture on, P:777 Rufous hummingbird Hummingbird picture on, H:370 **Rufous** ovenbird Ovenbird, 0:525 Rufous-sided towhee [bird] Towhee, T:315 with picture Rug See Rugs and carpets Rugby (England), R:443 See also Warwickshire Rugby football, R:443 Edwards, Gareth, E:95 England (Recreation), E:267 Ireland (Recreation), I:355 London (Recreation), L:369 New Zealand (Recreation), N:155 with picture Northern Ireland (Recreation), N:272 Pacific Islands (Recreation), P:7 with picture Scotland (Recreation), S:161 United Kingdom (Recreation and sports), U:53 **Rugby League** See Rugby football Rugby School [England], R:448 **Rugby Union** See Rugby football Rugs and carpets, R:449 with pictures See also list of Related Articles Interior decoration (Floor coverings), Islamic art, I:420 with picture West Bengal (Local crafts), W:159 Ruhr [Germany], R:452 with map Germany (Manufacturing), G:129 with picture Ruhr River (Germany), R:453 Ruisdael, Jacob van Dutch painterl, R:453 Ruiz Cortines, Adolfo (president of Mexicol, R:454 with portrait Ruiz, Juan (Spanish poet), R:453 Spanish literature (Early medieval literature), So:193 Ruiz, Saint Lorenzo, R:454

Tool (Woodworking tools), T:296

Rudolf I [Holy Roman emperor]

Bath (Bathing for cleanliness), B:149

Russian Imperial Ballet

Russell [family], R:460 Fruit (Growing fruit), F:473 Rule (monasticism) Russell, George William [frish poet], Monasticism (Christian monasticism), Plant (Vegetative propagation), P:559 R:467 with picture M:544 Russell, Hastings William Sackville Running (sport), R:458 with picture Rules of evidence (British nobleman) Athletics, A:710 Witness, W:283 Russell (family), R:460 Cross-country, Ci:455 with picture Rules of Sociological Method, The Russell, John (Australian painter), R:461 Jogging, J:123 (book by Durkheim) Russell, John [English soldier] Running foot Durkheim, Émile, D:356 Russell (family), R:460 Bird picture on, B:350 Rules of the Road Russell, John Robert (South African Runnymede [England], R:459 Boating (Boating regulations), B:415 journalist) Magna Carta, M:49 Ship (Safety at sea), S:383 Russell [family], R:460 Surrey (Places to visit), So:444; (His-Ruling class Russell, Lord John [English statesman], tory) So:445 Communism (The ideas of Marx), Runway CI:239 Russell, Lord William (English history) Airport (Runways), A:212 with pictures Rum and Coca Cola Inovel by De Bois-Rye House Plot, R:509 Runyon, Damon [American writer], Russell, Sir Edward John British R:459 De Boissiere, Ralph A. C., D:62 chemistl, R:461 Rupee (money), R:459 with picture Russell, William H. (American busi-Rupert of Hentzau (book by Hope) Alcoholic beverage, A:238 nessman) Hope, Anthony, H:276 Rum Hospital [Australia], R:454 with Pony express, P:670 Rupert, Anton South African businesspicture Russell, William Howard (British war mani, R:459 Rum jungle [Australia], R:455 correspondent Rupert, Prince, R:459 with portrait Rum Rebellion, R:455 with picture War correspondent, W:35 Rupture [disorder] Australia, History of, A:801 with pic-Russell's viper Hernia, H:178 Viper, V:400 with picture Rural population Bligh, William, B:387 Russett Burbank potato Population, P:685 Macquarie, Lachlan, M:22 Burbank, Luther, B:648 Rus [ancient people] Rumania Potato, P:719 Ukraine (History), U:5 Russia and the West Under Lenin See Romania Vikings, V:389; (The Swedish Vikings) and Stalin (book by Kennan) Rumba (dance), R:456 V:394 Rumble Fish (book by Hinton) Kennan, George Frost, K:215 Rusalka imusic by Dvořákl Russia, R:462 with pictures and maps Hinton, S. E., H:217 Dvořák, Antonín, D:359 Rumen Amnesty, A:337 Opera (Nationalism), 0:465 Cattle (Stomach), C:271 with diagram Armenia (History), A:580 Ruse, james [Australian convict-settler], Aviation (Aircraft nationality marks), Ruminant, R:456 with diagram Ruminant [animal], R:456 with diagram A:881 Phillip, Arthur (Convicts), P:418 Azerbaijan (History), A:897 Camel (Food), C:53 Rush, Benjamin (American doctor), Belarus (Lithuanian, Polish, and Rus-Cattle (Stomach), C:271 R:460 sian rule), B:210 Deer (Food), D:80 Rush [plant], R:460 Bush, George (Foreign affairs), B:669 Goat (Digestive system), G:222 Rush, Philip (swimmer) Commonwealth of Independent Rump Parliament (English history), English Channel, E:280 States, Cl:222 R:457 Rush-Bagot Agreement [1817] Doll (Traditional dolls), D:244 with pic-Long Parliament, L:378 Ghent, Treaty of, G:149 Rumpeistiltskin (German folklore) ture Rushcliffe (England), R:460 Flag pictures on, F:199; F:209 Fairles (Fairles in literature), F:11 with Rushlight Georgia (History), G:103 picture See also list of Related articles Rush, R:460 Grimm's Fairy Tales, G:377 Rushmoor (England), R:460 Kazakhstan (History), K:205 Runoff primary Ruskin, John British authori, R:460 Kyrgyzstan (History), K:350 Primary election, P:777 Hill, Octavia, H:203 Library (Famous libraries), L:233 Run River (novel by Didion) Whistler, James Abbott McNeill, Moldova (Ottoman and Russian rule), Didion, Joan, D:167 W:230 Runcie, Robert [British religious M:529 Russell [New Zealand], R:460 Nuclear weapon (Limiting numbers), leader), R:457 with portrait Russell, Bertrand (British philosopher), N:340 Runcorn R:460 with portrait Police, P:642 Cheshire (Local government), C:379 Logic (Modern logic), L:362 Theatre, T:208 with picture New town (table), N:138 Mathematics (Philosophies of mathe-Ukraine (Russian rule), U:12 Rundle Oil Shale Project (Australia), matics in the 1900's), M:260 Russia (Mongoi rule), R:385 R:457 Nobel Prizes (Literature), N:232 Russia Leaves the War book by Ken-Rundstedt, Karl Rudolf Gerd von Philosophy (Philosophy in the 1900's), nanl [German field marshal], R:457 Kennan, George Frost, K:215 Rune (alphabet), R:458 with picture Russell, Charles Marion | American Rune [Norse mythology] Russian ballet painter), R:461 Ballet, B:56 Odin, 0:411 Cowboy picture on, Cl:406 Diaghilev, Sergel Paviovich, D:152 Rune stone Russell, Charles Taze (American reli-Nijinsky, Vaslav, N:218 Kensington rune stone picture on, gious leaderl Russian bath

Jehovah's Witnesses, J:81

leaderl

Russell, Francis English political

Runeberg, Johan Ludvig (Finnish poet)

Finland (The arts), F:118 Runner [botany]

Ballet (French leadership), B:55; (Russian ballet) B:56

Russian Information Telegraph Agency (RITA)

Journalism (News services), J:150

News service, N:179

Russian language, R:494

Russia (Language), R:469 Uzbekistan (People), U:293

Russian literature, R:495 with pictures

See also list of Related Articles Drama (Russian drama and Chekhov),

Russian language (History), R:494

Russian Orthodox Church

Asia (Religion), A:642 Eastern Orthodox Churches, E:47

Moscow (Religion), M:628 Russia (Religion), R:472

Tolstoy, Leo (His conversion), T:289

Russian Revolution

Kerensky, Alexander Feodorovich, K:236

Lenin, V. I. (The road to power), L:171

Russia (The February Revolution), R:489; (The October Revolution) Retiro

Stalin, Joseph (The Bolshevik revolution), So:268

Trotsky, Leon, T:417 World War I, W:372

Russian Soviet Federative Socialist

Republic (R.S.F.S.R.)

Moscow, M:624

Russia (History), R:484

Yeltsin, Borls Nikolayevich, Y:447

Russian thistle

Thistle, T:222 Russlan turnip

Swede, So:459

Russian wolfhound

Borzoi, **B:472** Wolfhound, W:288

Russification

Belarus (Lithuanian, Polish, and Russian rule). B:210

Ukraine, U:4; (Language) U:6; (Russian rule) U:12

Russo-Finnish wars, R:502 with picture Russo-Japanese War, R:502 with pic-

tures

Nicholas II (czar of Russia), N:198

Russo-Turkish wars, R:503

Berlin, Congress of, B:255 Rust [chemistry], R:504

Corrosion, Ci:365

Iron (Properties), 1:385

Oxidation, 0:535

Paint (Industrial paints), P:24

Rust [fungus], R:504 Currant, Ci:503

Lawn (Controlling diseases, pests, and weeds), L:120; picture on L:119 Wheat (Controlling diseases), W:220

Rutabaga [plant] Swede, So:459

Ruth, Babe [American baseball player]. R:504 with portrait

Ruth, Book of [Old Testament], R:505

Shavuot, \$:335

Ruth, George Herman

See Ruth, Babe Ruthenia (region, Ukraine), R:505 Czechoslovakia (Independence),

Ci:524; (German seizure) Ci:524

Ruthenium (chemical element), R:505 Rutherford, Daniel (Scottish physician)

Air (The study of air), A:188

Nitrogen, N:221

Rutherford, Ernest (British physicist), R:505

Atom (The first descriptions of atomic structure), A:729

Bohr, Niels, B:421 Element 104, E:200

Geology (Experimental geology), G:93 Nuclear energy (The beginning of nu-

clear physics), N:329

Physics (Uncovering the secrets of the atom), P:478

Research (Basic research), R:235 Science (Science in the early 1900's),

5049

Rutherfordium

Element 104, E:200

Rutile (mineral), R:505

Crystal (Classifying crystals), Ch469 with picture

Mineral picture on, M:484 Rutland (England), R:505

Rutland Water (England)

Leicestershire (Places to visit), L:159

Rutskoi, Alexander Vladimirovich Russian political leaderl, R:506 with

portrait Russia (The new nation), R:492

Ruvironza, River

Nile River (The course of the Nile).

N:218 Ruwenzori Range [Africa], R:506

Africa (Mountains), A:138

Ruysdael, Jacob van See Ruisdael, Jacob van

Rwanda [Africa], R:506 with picture and map

Burundi (History), B:666 Flag picture on, F:201

Kigali, K:247 Ruanda-Urundi, R:428

R [symbol], R:36 Rx [symbol], R:36

Ryder, Albert Pinkham (American painter], R:508

Rye [England]

Sussex (Places to visit), So:449

Rye (plant), R:508 with picture Ergot, E:318

Triticale, T:410

Whisky, W:229

Rye brome Brome grass, B:585

Rye House Plot (English history), R:509 Ryedale (England), R:509

Ryegrass

Grass (Kinds of grasses), G:302 Lawn (Planting the grass), L:118 Ryle, Gilbert [English philosopher], R:510

Ryle, Sir Martin British Astronomer Royall, R:510

Rynd, Francis [irish doctor] Hypodermic injection, H:416

Ryswick, Treaty of [1697] Dominican Republic (History), D:261 Ryukyu Islands, R:510 with man

Japan (Land), J:47; (Postwar boom) J:60 Okinawa, 0:422 Ryzhkov, Nikolai Ivanovich (Soviet po-

Ittical leader], R:510 with portrait



S [letter]. S:1 with pictures

S (symbol) Sulphur, So:400

Saad Zaghlul [Egyptian political leader] Egypt (Independence), E:117

Saadi (Persian author), S:2 Saanen goat

Goat (Domestic goats), G:221; picture

on G:223 Saar [Germany], S:2 Saarinen, Eero, S:2

Architecture picture on, A:513

Furniture picture on, F:507 Saarinen, Eliel [Finnish architect], S:2

Finland (Arts), F:118 Saavedra Lamas, Carlos

Nobel Prizes (table: Nobel Prizes for peace-1936), N:233

Saaz, Johannes von [German author] German literature (The Renaissance), G:107

Sab [people]

Somalia (People), So:35 Saba lisland, Netherlands Antillesl, 5:2 Sabah [Maiaysia], S:2 with map

Borneo (History), B:471 Kota Kinabalu, K:332

Malaysia, M:89

Malaysia, History of, M:106 Sabah, Shaykh Jabir al-Ahmad al-

Amir of Kuwaitl, S:4 Sabbath [religion], S:4

Judaism, J:156 Sabbatical (book by Barth)

Barth, John, B:121 Sabin, Albert Bruce [American doctor],

Invention (Social needs), 1:311 Poliomyelitis (Prevention of poliomyelitis), P:646

Sabines [ancient Italian people], St5

Romulus and Remus, R:385 Sable [animal], S:5 with picture

Fur picture on, F:489 Heraldry (Expansion), H:160

Croatia (History), Ci:446

Sabotage, S:5 Saboteur

World War II, W:403

Sahro

Safety lamp, S:16

Ship (The age of sailing ships), S:362

Fencing, F:50 with picture Davy, Sir Humphry, D:50 Sacrospinalis muscle (anatomy) Sword, So:502 Sabre-toothed tiger (animal), S:5 with See also Damp Back, B:17 Safety match Sacrum [anatomy] Match, M:252; (The first safety Prehistoric animal picture on, P:747 Pelvis, P:250 with diagram matches) M:253 Skeleton (The axial skeleton), S:460 Sacwinged bat Sweden (Manufacturing), So:470 Bat (Kinds of bats), B:148 with diagram Safety pin Sacagawea (Shoshone Indian guide), Sadat, Anwar el-lEgyptian political Pin, P:502 leaderl, S:7 S:5 with picture Lewis and Clark expedition (Up the Egypt (Renewed warfare and peace), Safety razor Razor, R:148 Missouri), L:200 EII Middle East (Attempt at peace), M:457 Safety rod Saccharides [food], S:6 Nuclear reactor (The safety system), Carbohydrates (Kinds of carbohy-Nobel Prizes (Peace), N:234 N:334 Saddam Hussein drates), C:187 Safety system See Hussein, Saddam Saccharin, S:6 Nuclear reactor, N:334 Saddhu [Hindu holy man] Artificial sweetener, A:612 Safety valve, S:16 with diagram Hinduism picture on, H:212 Soft drink (How soft drinks are made), Boiler (Strength of boilers), B:422 Saddle, S:7 with pictures So:17 Safflower, S:16 with picture Horse, H:294 Saccule Saffron, S:17 with picture Saddle bronc riding Ear (The vestibule), E:8 Crocus, Ci:449 Rodeo, R:329 Sachs, Julius von [German botanist], S:6 Dye (Natural dyes), D:362 Saddleback butterfly fish Sachs, Nelly [German-born Jewish poet], Jammu and Kashmir (Agriculture), J:25 Fish picture on, F:163 Spain (Food and drink), So:173 Sadducees [people], 5:8 Sackville-West, Victoria Mary (English Saga (literature), S:17 Jerusalem (Ancient times), J:93 writer], S:6 Sagan, Carl Edward (American astronlews (The Hellenistic period), J:113 Sacral vertebra (anatomy) omer), S:17 with portrait Pharisees, P:358 Spine, So:229 with diagram Sage (plant), S:17 with picture Sanhedrin, S:74 Sacrament (religion), S:6 Sade, Marquis de |French author), S:8 Sage (satellite) Marriage (Wedding ceremonies and Satellite, Artificial (Important satellites), Sadi [Persian author] customs), M:218 S:96 See Saadi Sagebrush (plant), S:18 with picture Protestantism (Belief in sacraments), Sadikin, Ali (governor of Jakarta) P:816 Wormwood, W:411 Jakarta (History), J:15 Sagittarius (astrology), 5:18 with picture Roman Catholic Church (The seven Sadism sacraments). R:336 Sago, 5:18 See Sade, Marquis de Trent, Council of, T:393 Palm (Products of palms), P:107 Sadko [music by Rimsky-Korsakov] Sacramental Saguaro (plant), S:19 Rimsky-Korsakov, Nikolai, R:278 Roman Catholic Church, R:337 Cactus (Kinds of cactuses), C:10 Sadler, Sir Michael (British education-Sacramento (U.S.A.), S:7 Sahara (desert), S:19 ist], S:8 Sacred Band See also list of Related Articles Sadler's Wells Royal Ballet Africa (Ways of life south of the Sa-Pelopidas, P:249 De Valois, Dame Ninette, D:144 Sacred College of Cardinals hara), A:128 Sadler's Wells Theatre, S:8 Algeria, A:264 with picture Cardinal, C:196 Baylis, Lilian Mary, B:163 Climate picture on, Cl:80 Pope, P:673; (Present procedures) Sadowa, Battle of Desert, D:130 with map P:675 Seven Weeks' War, S:279 Egypt (The Western Desert), E:111 Sacred Heart of Jesus, Society of the, Safar [month] Libya (Land and climate), L:238 Calendar (The Islamic calendar), C:35 Western Sahara, W:190 Sacred History [book by Daniel-Rops] Safari, S:8 Saharan Atlas Mountains Daniel-Rops, Henri, D:31 Africa (Native animals), A:141 Sacred music Algeria (The Sahara), A:264 Safavid dynasty Sahel [Africa], S:21 Classical music (Songs), Ci:57; (Choral Azerbaijan (History), A:897 Famine (Drought), F:24 music) Ci:57 Salbou, Ali [Nigerien political leader] iran, 1:338 Hymn, H:410 Muslims (Colonialism), M:744 Oratorio, O:484 Niger (History), N:205 Turkmenistan (History), T:468 Sald bin Taimur (sultan of Oman) Sacrifice [religion], S:7 Safety, S:9 with pictures Abraham, A:15 Oman, 0:450 See also list of Related Articles Said Pasha (Egyptian political leader) Aztec (Religion), A:899; picture on Animal (Hiding in a safe place), A:401 Egypt (Muhammad All and moderniza-A:900 Camping, C:68 tion), E:116 Inca (Religion), **1:49** Consumerism (The right to safety), Suez Canal (History), So:386 Indian, American (Shamans, priests, Said, Nuri as-[iraqi army officer], S:21 Ci:313 Earthquake (Safety precautions), E:36 and prophets), 1:148 with picture Mexico (The Toltec and the Aztec), Nuclear energy (Hazards and safe-Animal picture on, A:391 M:418 with picture guards), N:326; (Safety concerns) Mythology (American Indian mythol-Saigon N:331 See Ho Chi Min City ogy), M:762 Scapegoat, S:122 Safety bicycle Bicycle (Early bicycles), B:283 with pic-Sacrifice of Noah, The lpainting by Uc-Sailing, S:22 with pictures and dia-

Safety glass

Glass (Kinds of glass), G:190

Uccello, Paolo, U:2

Sacroiliac joint lanatomyl, S:7

Pelvis, P:250

Saint Clair, Lake

See Lake Saint Clair

Saint John, Order of, S:34 with picture with pictures Saint Croix Saint Johns Windsurfing, W:272 with picture See Virgin Islands Antigua and Barbuda, A:460 with pic-Saint Croix River Dalles Sailboarding See Windsurfing Dalles, D:11 Saint John's (city, Antigua and Barbuda) Saint David's Day, S:32 Sailfish, S:21 David, Saint, D:45 Fish picture on, F:160 Saint John's bread Saint Denis, Ruth (American dancer), Sailing [sport], S:22 with pictures S:32 See Carob See also list of Related Articles Saint John's Cathedral [Parramatta] Saint Domingue Canoeing (Poling and sailing), C:130 Parramatta picture on, P:199 Knots, hitches, and splices (Uses of Haiti (History), H:18 Saint-John's-wort [plant], S:35 with pic-Saint Edmundsbury (England), S:32 knots), K:307 Sailing ship Saint Elias Mountains [Alaska-Yukon], ture Saint Kilda lislands, North Atlanticl, \$:35 Ship (Sailing ships in the 1900's), S:371 with pictures Saint Elmo's fire, S:32 Saint Kitts See Saint Christopher and Nevis Warship, W:46 See also Jack-o'-lantern Lightning (Forms of lightning), L:273 Saint Lawrence Islands National Park Saliplane Glider, G:205 with pictures Saint Eustatius lisland, Caribbeanl, S:32 Thousand Islands, T:228 Saint-Exupéry, Antoine de (French avi-Saint Lawrence Lowland Sallsurfing Canada, C:84 See Windsurfing atorl, S:33 New York (Land), N:140 Saint Gabriel [ship] Saint [religion], S:27 See also list of Related Articles Saint Lawrence River, S:35 with pic-Da Gama, Vasco (Voyage to India), D:4 All Saint's Day, A:270 Saint-Gaudens, Augustus | American ture and map See also list of Related Articles Biography (The Middle Ages), B:301 sculptor], S:33 with picture Thousand Islands, T:227 with picture Canonization, C:131 Sculpture (American sculpture), S:214 Saint Agnes [England] Saint George Island Saint Lawrence Seaway, S:37 with Cornwall (Places to visit), Cl:360 Pribilof Islands, P:774 Canada, History of (The new Conserva-Saint Albans (England), \$:28 Saint George Killing the Dragon tive government), C:104 Hertfordshire (Places to visit), H:185 [sculpture by Donatello] Great Lakes (Water routes to the sea), Saint Andrews (Scotland), S:28 with Dragon, D:279 with picture picture Saint George Isculpture by Donatellol G:322 Saint Andrew's cross Donatello, D:264 with picture New York (History), N:141 Andrew, Saint, A:362 Dragon, D:279 with picture Saint Lawrence, Gulf of Cross picture on, Ci:455 See Gulf of Saint Lawrence Saint George's [Grenada], S:33 Saint Lazarus, Order of, S:38 Flag (Crosses in the British flag) pic-Saint George's Channel, S:33 Saint Leger, Barry [British soldler], \$:38 ture on, F:211 Saint George's Day, S:33 Saint Louis [U.S.A.], 5:38 with picture Saint Andrew's Day, S:29 Saint George's Island Andrew, Saint, A:362 Bermuda (Location, size, and descrip-Saint Louis River Dalles Saint Anthony's fire [disorder] tion). B:256 Dalles, D:11 Saint Lucia (West Indies), S:38 with plc-Erysipelas, E:323 Saint Germain, Peace of Saint Augustine (U.S.A.), S:29 Saint Bartholomew's Day, Massacre of, ture and map United States, History of the, U:237 CARICOM, C:199 Saint Bartholomew's Day, Massacre Saint Germain, Treaty of, S:33 Flag picture on, F:203 Saint Gotthard Pass [Switzerland], \$:33 Windward Islands, W:272 Catherine de Médicis, C:266 Saint Gotthard tunnels [Switerland] Saint Lucia Day Sweden (Holidays), So:466 with pic-Charles IX. C:352 Switzerland (Transportation), So:499 France (Religious wars), F:413 Saint Gotthard tunnels [Switzerland], ture Saint Ludmila (music by Dvořák) Huguenots (The massacre), H:344 with Saint Helena [island], S:34 with picture picture Dvořák, Antonín, D:359 Saint Basil's Cathedral [Moscow] Saint Luke Passion (work by Pen-Napoleon I (The Hundred Days and Architecture (Byzantine architecture), Waterloo), N:22 derecki) A:523 Penderecki, Krzysztof, P:255 Saint Helens [England], S:34 Saint Mark Rescuing a Slave painting Europe picture on, E:357 Saint Helens, Mount Moscow (Famous landmarks), M:625 See See Mount Saint Helens by Tintorettol Painting (Painting compositions), P:35 with picture Saint Ives [England] Russia (Architecture), R:473 with pic-Cambridgeshire (Local customs), C:49 with picture ture; picture on R:462 Saint Ives [book by Stevenson] Tintoretto, T:260 Saint Bernard Idogl, S:29 with picture Saint Mark, Basilica of, S:40 Stevenson, Robert Louis (Stevenson's Architecture (Byzantine architecture), Dog picture on, D:223; D:230 writings), So:322 Saint Bernard Passes [Switzerland]. Saint James's Palace (London), S:34 S:30 Royal Family of the United Kingdom Campanile, C:62 Saint Brendan's Cathedral Venice, V:335 with picture (Royal houses), R:425 World, History of the picture on, Galway picture on, G:20 Saint Joan [play by Shaw] Saint Christopher and Nevis [islands], Joan of Arc, Saint, J:122 5:30 Saint Martin [island], S:41 Shaw, George Bernard, S:335 Saint Mary of Bethiehem [hospital] CARICOM, C:199 Saint John Ambulance, \$:34 Flag picture on, F:203 Civil defence, Ci:39 Bedlam, **B:183** Saint Clair, Arthur, S:32 Saint John, Order of, \$:34 Saint Mary's Loch Borders Region (Rivers and lakes),

Saint John Lateran

B:467

See Lateran

Salk, Jonas Edward, S:52

Salem [U.S.A.], 5:49 Saint Michael's Mount [England], S:41 CARICOM, C:199 Salem witchcraft trials, S:49 Flag picture on, F:203 with picture Witchcraft (From the 1400's through to Cornwall (Places to visit), Cl:360 Grenada (History and government), the 1700's), W:282 Saint-Mihiel, Battle of [1918] C:370 Salem's Lot [book by King] Air Force (Famous air battles), A:199 Kinastown, K:284 King, Stephen, K:255 Saint Moritz (Switzerland), S:41 Windward Islands, W:272 Saleratus Saint Nicholas, Feast of, S:41 Saint Vitus's dance Chorea, C:480 Soda, So:15 Netherlands (Holidays and recreation), Sainte-Beuve, Charles Augustin Sales [economics] Computer, Cl:263 [French literary critic], S:47 Saint Patrick's Cathedral [New York Magazine, M:41 French literature (Realism), F:449 Cityl New York City picture on, Manufacturing, M:169 Saintpaulia N:145 Sales tax, S:49 See African violet Saint Patrick's cross Sales, Saint Francis de Saint's Everlasting Rest, The book by Flag (Historical flags of the world), See Francis de Sales, Saint Baxter Salesmanship, S:49 Baxter, Richard, B:161 Saint Patrick's Day, S:42 See also list of Related Articles Saison en enfer, Une Iwork by Rim-Ireland picture on, 1:354 Safford [England], S:50 baudl See also Patrick, Saint Salic law, S:50 Rimbaud, Arthur, R:277 Saint Paul (island) Austria (Wars in the 1700's and 1800's), Sakakawea Pribilof Islands, P:774 A-REG Saint Paul's Cathedral [London] See Sacagawea Salicin (chemical) Architecture (Baroque architecture), Medicine (History), M:313 Alcoholic beverage (Other fermented A:528 with picture Salicylic actd, S:50 beverages), A:238 Fires of London, F:140 Salientia (order) Japan (Food and drink), J:42 London (Churches), L:370; picture on Toad, T:268 with pictures Rice (Other uses), R:262 Salina (geography) Sakhalin (island, Siberial, S:47 Wren, Sir Christopher, W:414 South Australia (Lakes, rivers, and Sakharov, Andrei Dmitriyevich [So-Saint Paul's Suite [music by Holst] wells), So:110 viet physicist), \$:47 Holst, Gustav, H:250 Salinas de Gortari, Carlos ipresident Saki Saint Peter's Basilica [Rome] of Mexicol, \$:50 with portrait See Munro, Hector Hugh Michelangelo,, M:433 (Later Mexico (Recent developments), M:422 Sal soda years)M:436 Salinger, J. D. [American author], S:51 Saint Peter's Church [Vatican City], Soda, So:15 American literature (Fiction and other Salad onion S:42 with picture prose), A:320 Onion (The onion plant), 0:452 Altar picture on, A:288 Salinometer Saladin [Muslim warrior], S:47 Architecture (Later Renaissance archi-Hydrometer, H:407 Cairo (History), C:20 Salisbury [England], S:51 with picture tecture), A:527 with picture Crusades (The Third Crusade), Ci:463 Bernini, Gian Lorenzo, B:259 Wiltshire (Places to visit), W:265 with Egypt (Muslim rule), E:115 Bramante, Donato, B:522 picture; (Manufacturing) W:265 Muslims (The Crusades), M:744 Peter, Saint (Later years), P:325 Sallsbury [Zimbabwe] Palestine (Arab control), P:103 Rome (Churches, palaces, and foun-See Harare Salam, Abdus (Pakistani physicist) tains), R:364, R:364; picture on Salisbury Cathedral Grand unified theories, G:295 Gothic art (Gothic architecture in En-Salamander, S:47 with pictures Sculpture (Kinds of sculpture), 5:190 gland), G:264; picture on G:263 Amphibian, A:340 Vatican City, V:316 with picture; (His-Salisbury, S:51 with picture Animal (Adaptations for breathing), Wiltshire (Places to visit), W:265 with tory) V:317 A:399; (Regeneration) A:406 Saint Petersburg [Russia], S:43 picture Salamina (book by Kent) Peter I, the Great (Policies within Sallsbury Plain Kent, Rockwell, K:222 Wiltshire (Land regions), W:266 Russia), P:324 Salamis (island, Greece), S:48 Salisbury, Marquess of British states-Saint-Pierre and Miquelon lislands, At-Salamis, Battle of [480 B.C.] lanticl, S:44 man], S:51 Saint Raphael [ship] Aristides, A:567 Saliva (digestion), S:31 with diagram Navy (Ancient navies), N:60 Da Gama, Vasco (Voyage to India), D:4 Digestive system (From mouth to Themistocles, T:212 Saint-Saëns, Camille French comstomach), D:171 Xerxes 1, X:433 Human body (The mouth, oesophagus, poser], S:44 Salammbô (book by Flaubert) Saint-Simon, Comte de [French philosand stomach), H:354 Flaubert, Gustave, F:222 opher], S:44 Mastication, M:251 Salar the Salmon [work by Williamson] Saint Sophia Salivary amylase Williamson, Henry, W:259 See Hagia Sophia Enzyme diagram on, E:310 Salazar, António de Oliveira Por-Saint Stephen's Hall Salivary gland tuguese political leaderl, S:48 Westminster, Palace of, W:195 Gland (table), G:183 Portugal (The Salazar dictatorship), Saint Swithin's Day, S:44 Human body (The mouth, oesophagus, Saint Thomas P:706 and stomach), H:354 Salbutamol (drug) Virgin Islands of the United States, Mouth, M:677 with diagram Asthma, A:678 Mumps, M:700 V:403 with picture and map Saint Valentine's Day Saldanha, S:48 Saliva, S:51 with diagram Sale (Australia), S:49 See Valentine's Day Salk vaccine

Saint Vincent and the Grenadines,

\$:45 with picture and map

Sale, Bill of

See Bill of sale

See Great Salt Lake Salk, Jonas Edward (American doctor). Salt Lakes (Australia) South Australia (The Central Desert Invention (Social needs), I:311 Poliomyelitis (Prevention of poliomye-Areal, So:110 Western Australia (The Plateau), W:179 litis). P:646 Vedas, V:320 Salt mine Sallekhana Salt (Salt from the ground), \$:56; (Hislainism (Fasting until death), 1:12 tory of salt) S:57 with picture Salmon, S:52 with pictures Samaai (people) Animal (Animal travellers), A:410 Salt mining Dominican Republic picture on, D:260 Fishing (Game fishing), F:185 Samar lisland) Salt Sea Scotland (Food and drink), S:161 See Dead Sea Salmon conservation Salt-water bass Salmon, S:54 Bass. B:142 Salmon fishing Salmon, S:53 Saft water Salmonella Hydrosphere, H:408 Dysentery (Causes and symptoms), Salt. Chemical, S:58 D:366 Saltbush, S:58 Food poisoning, F:305 Section Australia (Native plants), A:768 with Salmonellosis, S:54 map Salmonellosis, S:54 Salteñas [food] Salome [Biblical figure], S:54 Bolivia (Food), B:427 N:334 Salomé [play by Wilde] Saltee Islands (Ireland), S:58 Wilde, Oscar, W:249 Salto [Uruguay], S:58 Salome [opera by Strauss] Saltpetre, 5:58 Opera, 0:473 with picture Potassium, P:718 Strauss, Richard, So:349 Salts [medication], S:58 Salon, S:54 Salt-Water Ballads [work by Masefield] Salonga, Jovito Reyes Filipino politi-Masefield, John, M:241 cianl. S:54 Saltwater crocodile [sea animal] Salonika (Greece), S:54 Animal picture on, A:394 Greece (Macedonia), G:337 Saltwater fish Salop Fish, F:157 Elder, E:137 See Shropshire Saluki, S:58 Samfoo [clothing] Salpiglossis [plant], S:55 with picture Dog picture on. D:229 Salsa (music) Salute, S:59 with pictures Samhain [festival] West Indies (Arts), W:167 Salvado, Dom Rosendo (Spanish-born Salsify iplantl, S:53 with picture Australian missionaryl, S:59 Salt Acts (history of India) Salvador [Brazill, S:59 Gandhi, Mohandas Karamchand Salvador, El Vedas. V:320 (Gandhi's independence cam-See El Salvador Sami [people] paigns), G:29 Salvage, S:59 Lapland, L:62 Salt-and-pepper gourd Salvarsan [chemical] Gourd, G:266 Medicine (The medical revolution). Salt, S:55 with pictures M:317 See also list of Related Articles Salvation Army, S:60 with pictures Drainage, D:280 Booth, William, B:464 Samkhva Electricity (Conduction of electric cur-Salvation [religion] rent), E:168 Christianity (Beliefs), C:484; (The Reforphy), H:210 Electrolysis (Uses of electrolysis), E:175 mation) C:485 Horse (Food), H:298 Predestination, P:741 South America picture on, So:88 Protestantism (Faith and grace), P:615 Western Australia (Mining), W:180 Religion (A doctrine of salvation), **SALT** [talks] R:198 See Strategic Arms Limitation Talks Roman Catholic Church (Sin and salva-Salt Cay [island] tion), R:335 Samoa Turks and Caicos Islands, T:469 Salvation Jane (plant), S:60 Sait curing Salvia (plant), S:60 with picture Fishing industry, F:193 Salwar kamiz (clothing) Samosa [food] Food preservation (Early methods), India (Food), 1:65 Punjab (People), P:858 F:308 Salween River (Burma), S:60 Salt dome [geology] Salyut |space station| Petroleum (How petroleum was Space exploration, So:128, So:155 formed), P:339 with picture Salzburg [Austria], S:60 Salt (Salt from the ground), S:56 Salzburg Tales, The [book by Stead] Salt Lake City [U.S.A.], S:58

Stead, Christina, So:307

siles), G:409

Guided missile (Surface-to-air mis-

SAM

Mormons (Mormons today), M:610

Utah, U:286

Salt Lake, Great

Sam Small Flies Again [book by Knight] Knight, Fric K:298 Sama Veda lindian sacred text India. Literature of (The Vedas), 1:124 Sama-Vedas [Indian sacred text] Sama-Vedas [religious book] Hinduism (The Vedas), H:214 Somalia (People), So:35 Philippines (The main islands), P:380 Samara | Russial, S:61 Samaria lancient Palestinel, S:61 Samarian Highlands West Bank (Land and climate), W:157 Samaritans [organization], S:61 Samaritans (people, ancient Samarial, Samarium [element], S:61 Samarium oxide (chemical) Nuclear reactor (The safety system), Samargand (Uzbekistan), \$:61 Samaveda lindian sacred texts Sanskrit literature, S:75 Sambanthan, Tun Veerasamy Thrugnan [Malayan political leader], S:61 Samber, Robert (British author) Mother Goose (The history of Mother Goose literature). M:644 Sambuke [musical instrument] Malaysia (Clothing), M:86 Halloween (The Celtic festival), H:24 Samhita ireligious bookl Hinduism (The Vedas), H:214 Samisen Imusical instrument Japan (Music), J:45 Music (Japanese music), M:735 Tokyo (Arts), T:283 Hinduism (The six schools of philoso-India, Philosophy of, I:134 Samnites [people], S:61 Samo [Frankish leader] Slovenia (History), **S:494** Samoa [islands], S:62 See also American Samoa; Western Pacific Islands picture on, P:3 Samos [island], S:62 Samoset (Indian chief), \$:62 Samothrace [island], S:62 Samoyed [dog], S:62 Dog picture on, D:230 Samoyed [people] Arctic (In the Siberian arctic), A:543 Sampan [boat], S:62 Transportation (Engineless water transportation), T:350

Samphire [book by Powys] California (Economy), C:39 Don Outxote, D:263 with picture Powys, John Cowper, P:733 San Francisco Conference [1945], S:66 Sanctions Truman, Harry S. (First administration). International relations (Nonmilitary Sample Public opinion poll (Selecting the samsanctions), 1:295 South Africa, History of (The 1984 Con-United Nations, U:174 ple), P:840 Space exploration (Other moon land-San Francisco Examiner stitution). So:86 Hearst, William Randolph, H:98 Sanctuary ings), So:153 San Francisco-Oakland Bay Bridge, Cathedral (The Latin cross ground Statistics (Collecting the data), So:302 n(an). C:262 with diagram Sampler [needlework], S:62 with picture S-66 Bridge (table: combination), B:566 Samulina See also list of Related Articles San Francisco (City), S:65 with picture Statistics, Sp:304 Soil (Texture), So:21 San Jacinto, Battle of Sampling error Sand cherry Mexico (War with Texas and the Public opinion poll (Evaluating a poll), Beach plum. B:164 United States), M:420 P-840 Sand doilar (marine animal), S:70 with Sam's Art picture by Steinberg Santa Anna, Antonio López de (War picture Steinberg, Saul picture on, So:313 with Texas), S:76 Sand dunes, S:70 Samson Agonistes [book by Milton] Texas (History), T:168 Sand flv. S:70 Westward movement (The Santa Fe Milton, John, M:476 Sand martin Trail), W:198 Samson and Delilah Imusic by Saint-Martin, M:231 San losé [Costa Rical, S:66 Saënsl Sand painting, S:70 with picture San lose [U.S.A.], \$:66 Saint-Saëns, Camille, S:44 Folklore picture on, F:289 San luan [Puerto Rico], S:67 Samson [Biblical floure], S:62 Indian, American (Indians of the Puerto Rico (People), P:846; picture on Delilah, D:98 Southwest), 1:159 Samuel Johnson [book by Wain] Sand paper San Lorenzo, Church of [Florence] Wain, John, W:5 Woodworking (Sanding and finishing), Architecture (Early Renaissance archi-Samuel, Books of [Old Testament], S:63 tecture). A:526 Samuel, Herbert Louis Sand Plains Florence (The city), F:231 See Samuel, Viscount Netherlands, N:92 San Lorenzo, Church of [Turin] Samuel, Viscount (British statesman). Sand squeteague Architecture (Baroque architecture), S:63 Weakfish, W:108 A:528 Samural [Japanese history], S:63 Sand trap San Luis Potosi [Mexico], S:67 Hara-kiri, H:57 Golf (Hazards), G:245 San Marcos, University of [Peru], S:67 apan (Rise of the shoguns), 1:56 Sand verbena (plant), S:71 San Marino, S:67 with picture and map Judo (History), 1:160 Sand, George [French author], S:70 Europe (table), E:359 Kamakura period, K:183 Chopin, Frédéric François (His life), Flag picture on, F:209 Sword, So:502 with picture San Marino (city), S:68 San Andreas Fault, S:64 French literature (Romantic fiction), San Marino [city], S:68 San Andreas Fault, S:64 with map San Martin, José de l'Argentine gen-California (Land), C:38 Liszt, Franz (His life), L:307 erall. S:69 with portrait Earthquake (Transform faults), E:37; Sandakan [Malaysia], S:71 Argentina (Independence), A:561 with picture on E:33 Sandal picture United States (The Pacific Ranges and Shoe (History), S:390 Chile (Independence), C:424 Lowlands), U:211 Sandalwood, S:71 with picture Flag picture on, F:211 San Antonio [U.S.A.], S:64 Sandblasting, S:71 Peru (The war of independence), P:315 San Antonio de Valero Glass (How glass is decorated), G:195 Alamo, A:224 San Pedrico (ship) Sandbur (plant), 5:71 with picture Torres, Luis Vaez de, T:305 with pic-San Antonio [ship] Sandburg, Carl [American poet], S:71 Magellan, Ferdinand (The voyage beture American literature (Modernist po-San Pedro Sula [Honduras], S:69 gins), M:42 etry), A:317 with portrait San Salvador [El Salvador], S:69 San ipeoplel, S:63 with picture Sanderling [bird], 5:72 El Salvador, E:220 Africa (Peoples of Africa), A:122 with Sanders of the River [book by Wallace] San Salvador Island picture Wallace, Edgar, W:24 Bahamas (History), B:30 Battiss, Walter, B:157 Sandglass San Salvador [ship] Botswana (People), **B:482** Hourglass, H:321 with picture Cabrillo, Juan Rodríguez, C:8 Family (Traditional families in other Time (Devices that measure time), San Stefano, Treaty of countries), F:23 with picture T:256 Berlin, Congress of, B:255 Kalahari Desert, K:180 Sandhill crane Bulgaria (Turkish rule), B:637 Khoisan, K:241 Crane, Ci:416 with picture Russo-Turkish wars, R:503 Religion picture on, R:197 Sanding tool Sana [Yemen], S:69 South Africa, History of (The Khoisan), Woodworking picture on, W:308 Yemen (Formation of Yemen (Sana)), Sandinista National Liberation Front Zimbabwe (History), **Z:496** Y:451 Nicaragua (Recent developments), San Diego [U.S.A.], S:64 Sanatana Dharma N:196 Hinduism (Beliefs of Hinduism), H:209 ^{San} Domingo Sandpaper See Santo Domingo Sanatorium See Woodworking

Sanitarium, S:74

Iraq (Food and drink), 1:344

Sanbusak [food]

Sancho Panza

Sandpiper [bird], S:72

Western Australia (The Central Desert

Sandridge

Santo Dimingo, S:79

tures and map

San Francisco (U.S.A.), S:64 with pic-

See also list of Related Articles

area), W:177

Sandringham House

Sandringham [England], S:73 with pic-

India, History of (The coming of the Royal Family of the United Kingdom Aryans), 1:103; picture on 1:102 Lvon. 1:427 (Royal houses), R:425 Sanskrit literature, S:75 Sandringham picture on, \$:73 Sandstone (rock), S:73 Sansovino, Jacopo [Italian sculptor] Rock (Clastic sediments), R:308: (Meta-Sculpture (Michelangelo), S:212 Sant tradition morphic rock) R:309 with picture India, Literature of (Medieval litera-Sandstorm, S:73 ture). I:126 Weather, W:117 with picture Santa Ana [F] Salvadorl, S:76 Sandwell [England], S:73 Sandwich [food] Santa Anna, Antonio López de [Mexi-See Capuchin can soldier]. S:76 with portrait Food (Interesting facts about food), Alamo (Early days), A:224 F:244 Mexican War (Taylor's campaign), Sandwich glass M:395 Glass (Types of art glass), G:196 gistl. S:85 Mexico (War with Texas and the Sanforizing Textile (Finishing the fabric), T:173 United States), M:420 Chicle, C:401 Sang Nila Utama [Malay prince], S:74 Texas (History), T:168 Sangam learly Tamil literature Santa Clara India, Literature of (Early Dravidian litluan Fernández, I:153 Latex, L:75 erature), I:125 Santa Claus, S:76 with pictures Christmas, C:487 with picture Sanger, Frederick [British biochemist], Nicholas, Saint, N:199 Santa Claus (play by Cummings) Sanger, Margaret [American social re-Cummings, E. E., Ci:497 Sappho [Greek poet], S:86 formerl, S:74 Greek literature (Lyric poetry), G:357 Sangha Santa Fe [Argentina], S:77 Buddha (Followers of the Buddha). Poetry (Ancient poetry), P:613 Santa Fe [U.S.A.], S:77 B:614 Santa Fe Trail, S:78 Buddhism, B:615 Westward movement, W:198 Religion (How the major religions are Santa María (ship) organized), R:200 Caravei, C:186 Religious life (Buddhism), R:209 Columbus (First voyage westward), Sangría (drink) Cl:207 with picture Spain (Food and drink), So:173 Santa Marta (Colombia), S:78 Sanguine humour Santa Rosa plum Personality (Personality types), P:299 Burbank, Luther, B:648 Sapwood Sanguinetti, Julio Maria (Uruguayan Santayana, George | Spanish-born Tree (How trunks and branches political leader) American philosopheri, S:78 Uruguay (Military government), U:285 Santeria [religion] Sanhedrin [religion], S:74 West Indies (Religions), W:166 diagram High priest, H:196 Santiago [Chile], S:78 with picture Sara [people] Hillel I. H:204 Santiago (Dominican Republic), S:79 Sanidine (mineral) Santiago de Cuba (Cuba), S:79 Ubangi, U:2 Feldspar, F:49 Spanish-American War (Cuban block-Sanitarium, S:74 ade), So:190 with map; (Land bat-Tuberculosis (Treatment of tuberculotles) So:190 sis), T:434 Santiago (ship) Sanitary landfill Magellan, Ferdinand (The voyage be-S:87 Waste disposal (Methods of waste disgins), M:42 posal), W:65 Santo Domingo [Dominican Republic]. Sanitation, S:74 S:79 with picture Sewage, S:283 with diagrams Dominican Republic, D:257; picture Isaac, 1:410 Waste disposal, W:65 on D:261 Ishmael, I:412 Water, W:68 Santo Domingo, University of, S:80 Sankara (Hindu religious leader) Santos, José Eduardo dos [Angolan Monasticism (Non-Christian monastipolitical leader) cism), M:544 Angola (History), A:373 Sankara, Thomas (Burkina Faso politi-Santos [Brazil], S:80 cal leader) Santos-Dumont, Alberto Brazilian in-Burkina Faso (History), B:655 ventorl, S:80 with picture Sannyasi Aeroplane (Other pioneer planes and struments), 1:94 Manu, M:166 fliers), A:79 Religious life (Hinduism), R:209 Airship (The first airships), A:218 Saratoga [ship] São Paulo [Brazil], S:81 with pictures Sansevieria (plant), S:75

Sanskrit language, S:75

Arvans, A:617

Sanskrit language and literature

See also list of Related Articles

São Tomé and Principe Flag picture on, F:201 São Tomé and Príncipe, S:83 with plcture and map Saône River [France], S:84 Rhône River, R:258 with man São Francisco, River, S:80 South America (Rivers) So:94 São Miguel Island (Azores), Sati San [botany], S:85 See also list of Related Articles Tree (Trunk and branches) T:377 Sapaiou (monkey) Sapho (work by Daudet)

Daudet, Alphonse, D:42 Sapir, Edward [American anthropolo-Sapodilla [fruit], S:86 Gum tree, G:428

Mexico (Plant and animal life), M412 See Spapberry Sapphire (gemstone), S:86

Sapporo [japan], S:86 Saprophyte, S:86 Fungi (How a fungus lives), F:485 Mushroom (How a mushroom obtains food), M:722 Plant (Photosynthesis), P:562 with plc-

Sapsucker [bird], S:86 with picture Sap (How sap moves), 5:85

grow thicker), T:379 with Chad (People), C:331; (History) C:333

Sara Orangetip Butterfly picture on, B:683 Saracens [people], S:87 Saragat, Gluseppe (Italian president),

Saragossa (Spain), S:87 Sarah (Biblical figure) Abraham, A:15

Sarah Siddons as the Tragic Muse

(work by Reynolds) Reynolds, Sir Joshua, R:248

Sarajevo | Bosnia-Herzegovinal, S:87 Bosnia-Herzegovina, B:473; picture of

Sarangi [musical instrument] India, Dance and music of (Musical In-

Aircraft carrier (The modern carrier fleet), A:205 Saratoga, Battle of

Sanskrit alphabet Alphabet, A:284

Brazil, B:527 with pictures; (City life) B:533

American Revolution, A:327 with pic-Sarma [food] Macedonia (People), Mas Saratov (Russial, S:87 Sarawak, S:87 with pictures and map Borneo (History), B:471 Sarmiento, Domingo Faustino Kuching, K:341 Malaysia, M:89 stitution of 1853) A:562 Malaysia, History of. M:106 Sarcasin cism), L:96 Humour, H:371 Satire. S:99 Sercodine Protozoan, P:819 with picture Sarnath [India] Sarcoidosis [disease]. S:89 Sarcoma (disease) manl. S:93 Cancer (Classification by body tissue), Sarona [clothina] C:120 Brunei (Pennie), B:599 Tumour, T:438 Sarcophagus, S:89 Sculpture (Classical sculpture), S:206 Sri Lanka (People), So:256 with picture: (Italian Renaissance sculpture) S:210 S:93 Sarcoptervolan Fish (The age of fishes), F:178 A-318 Sard Harker [work by Masefield] Masefield, John, M:241

Sardam (ship) Batavia, B:149 Sardine (fish), S:89 with picture Fish picture on, F:175 Sardinia (island), S:90 Italy, 1:461 Sardinia, Kingdom of, S:90 Italy (Italy united), 1:469 Sardis [Turkey], S:91 Sardonyx [mineral], S:91 Cameo, C:54 with picture

Gem picture on. G:73 Onyx, 0:453 Sardou, Victorien [French playwright], Sargasso Sea, S:91 with map

Eel, E:95 Seaweed (Kinds), S:232 Sargassum fish

Fish picture on, F:151 Sargent, John Singer (American painter], S:92 with picture

Sargent, Sir Malcolm [British conductor], S:92

Sargon II [king of Assyria] Architecture (Mesopotamian architecture), A:517 with picture Hittites (History), H:232

Sennacherib, S:255

Sargon of Akkad (king of Sumeri, \$492 Babylonia (History), B:15 Sumer., So:407

World, History of the (The Tigris-Euphrates Valleyl, W:332

Bangladesh (Way of life), B:83 India (Clothing), 1:65

Sri Lanka (People), So:256 West Bengal (Local crafts), W:159 with

Serich, Raiph [Australian inventor], 5:92 Sariska Wildlife Sanctuary lindial Rajasthan (Places to visit), R:126

Sark [Channel Islands], \$293 with picture

Sarmatians lancient neople Moldova (History), M:529

Argentina (The arts), A:556: (The Con-

Latin American literature (Romanti-

Sarmiento, Félix Rubén García-Dario, Ruhén, D:34

Uttar Pradesh (Places to visit). U:291 Sarnoff, David (American business-

Indonesia (clothing), l:184 Malaysia (Clothing), M:86

Saroyan, William [American author],

American literature (Realist fiction),

Sarraute, Nathalie [French writer] French literature (French drama of the mid-1900's), F:450

Sarsfield, Patrick lirish leader and soldier), \$:93 with portrait

Sarto, Giuseppe Pius X, Saint, P:529

Sartor Resartus (book by Carlyle) Carlyle, Thomas (Early career), C:203

Sartre, lean-Paul [French philosopherl, S:93 with portrait

Beauvoir, Simone de, B:175 Existentialism, E:415 French literature (Existentialism), F:450

Novel (Existentialism), N:314

Sasan Gir National Park Guiarat (Places to visit), G:422

Sashimi [food] Japan (Food and drink), 1:42

Saskatchewan [Canada], S:94 Sasquatch

Bigfoot, B:285 Sassafras Itreel, S:94 with picture

Sassanid dynasty

Azerbaijan (History), A:897

Iran, 1:338 Iraq (Early days), 1:346

Persia, Ancient, P:295 Sassanids [people]

Persia, Ancient (Government), P:294 Sassenach, S:94

Sassoon, Siegfried (British author), S:94 Salan

See Devil Satanist, The [book by Wheatley]

Wheatley, Dennis, W:226 Satanstoe (book by Cooper) Cooper, James Fenimore, Cl:336

Sataraš [food]

Macedonia (People), M:8 Satellite [astronomy], S:99

Earth (The earth and its moon), E:18 Jupiter (Satellites and ring), J:172 with diagrams

Mars. M:223 with nictures Moon M:583

Neptune (Satellites and rings), N:78 Saturn, S:102: diagram on S:101 Solar system, So:26

Uranus (table), U:276 with picture

Satellite broadcasting Television, T:120

Satellite navigation Navigation (Electronic navigation),

N:54: (Satellite navigation) N:55 Satellite, Artificial, S:95 with pictures

and diagram Astronomy (Space exploration). A:699

See also Communications satellite Map (Mapmaking and modern technology). M:192

Ocean, 0:400: picture on 0:399 Perpetual motion machine, P:288

Phenology, P:360 Radar (Space surveillance), R:55

Rocket (Launching probes and satellites), R:318

Space exploration (Space exploration terms), So:130; (The beginning of space) So:130: (The first artificial satellites) Sp:141

Telescope (Gamma ray telescopes), T:116

Television, T:132; (Satellite broadcast-Ing) T:120

Weather, W:119 with picture Satellite, artificial

Space exploration (Types of shuttle mission). So:159 with picture

Satie, Erik [French composer], S:99 Satin Ifabrici, S:99

Textile, T:171 Weaving, W:125 with picture

Satin plass

Glass (Types of art glass), G:198 Satire Idramal

Literature (Forms of Literature), 1:312 Sattre, S:99

Drama (England), D:294 Humour (The types of humour), H:371

Satires and Sunlight book by McCrael

Australia, Literature of (Other poetry), A:831

Satires (books by Horace) Horace, H:276

Latin literature (The Augustan Age),

Satires [poem by Donne] Donne, John (His poetry), D:267

Sato, Eisaku ljapanese political leaderl,

Nobel Prizes (Peace), N:234

Satrap (Persian history), S:99

Saturable reactor Magnetic amplifier, M:51

Saturated fat Fat (Fats and disease), F:33

Nutrition (Fats), N:363; (Nutrition guidelines) N:364 Saturation, 5:99

Colour (Characteristics of colour), Ci:199

Saul of Tarsus

See Paul, Saint

Cabbage, C:2 Saul imusic by Handell Humidity, H:368 Savoy operas Handel, George Frideric, H:41 Hydrogenation, H:406 D'Ovly Carte, Richard D-278 Sauna, S:113 Saturation habitat Saw. S:116 with pictures Bath (Bathing for cleanliness), B:149 Diving, Underwater (History), D:209 Woodworking (Cutting), W:307 Finland (Way of life), F:116 Saturday, S:99 Sawfish, S:117 with picture Saturday Night Fever [film] Saurashtra Peninsula Sawfly, S:117 with picture Guiarat (Land features), G:422 Popular music (Pop music), P:683 Sawing Saturn [planet], S:100 with pictures Sauria. Charles [French chemist] Match (The first matches), M:253 Machine tool, M:16 Astronomy (The solar system), A:689 Woodworking (Cutting), W:307 Herschel, Sir William, H:183 Saurischian Magnetism (The magnetism of other Dinosaur, D:177 with pictures Sawmill Timber (From sawmill to timbervard). astronomical bodies), M:57 Sauropod T:250 Planet, P:533 with picture Dinosaur. D:177 Sawver, Tom Space exploration (Probes to Jupiter Sausage [food], S:113 Sausage making See Twain, Mark and beyond). So:145 Meat processing, M:300 Sax. Adolphe (Belgian inventor) Saturn (rocket) Saxophone, S:118 Saussure, Horace Bénédict de (Swiss Space exploration (Launch vehicles). Saxe-Coburg-Gotha [English history] So:132 with picture: (Making scientist Windsor, W:271 Solar energy (History), So:25 ready) So:149 Saxe-Coburg, House of Saturn [Roman mythology], S:100 Weather (Beginnings of modern Kings and queens of Britain and Ire-Saturnalia [festival], S:102 weather forecasting), W:122 land family tree on, K:280 Satyagraha Sauvé, leanne Mathilde (Canadian po-Saxifrage (plant), S:117 with picture Pacifism, P:17 litical leader!, S:114 with portrait Saxons (ancient people), S:117 Satyr lentomologyl Savage iriverl, S:114 Alfred the Great (Defeats Danes), Butterfly, B:684 with pictures Savage Island Satyr (Greek mythology), S:102 See Nine A:249 Charlemagne (Military conquests), Satyr play Savanna, S:114 Drama (Satyr plays), D:287 C:349 Africa (Deserts, grasslands, and for-England (The Germanic invasions), Satyricon (book by Petronius) ests), A:138 E:274; (The Anglo n period) E:274 Latin literature (The Imperial Period), Biome map on, B:311 Hampshire (History), H:36 Cameroon, C:59 Novel (Ancient Greek and Roman nar-Forest, F:349 Kent (History), K:221 ratives), N:311 Ghana (Land), G:147 Trial (History), T:396 Saxony (Germany), S:117 Petronius, P:354 Grassland, G:306 Satyrs and Sunlight (book by McCrae) Llanos, L:342 Saxony rugs and carpets Rugs and carpets, R:449 Australia, Literature of (Other poetry), Pasture, P:213 Saxony wheel Imachinel A:831 Plant. P:549 Spinning (Early spinning wheels), Prairie (Climate and soll), P:737 Saucer, Flying So:230 with picture See Unidentified flying object Savannah (Georgial, S:115 Saxophone [musical instrument], S:118 Saucing compound Savannah, Battle of Tobacco (Manufacturing tobacco American Revolution, A:328 with pictures Music (Woodwind instruments), products). T:271 Savannah [nuclear ship] Saud dynasty M:728 with picture Ship (Nuclear power and automation), Saudi Arabia, S:110 Saya San [Buddhist monk] Burma (British conquest and rule), Saudi Arabia, S:103 with pictures and Savannah [steamship], S:115 Save the Children, S:115 Sayano-Shushensk dam (Yenisey River See also list of Related Articles Savernake Forest (England), S:115 Aviation (Aircraft nationality marks), Wiltshire (Places to visit), W:265 Dam (table), D:13 Sayers, Dorothy (English author), \$:118 A:881 Savery, Henry [Australian writer] Sayers, Tom [British boxer] Flag picture on, F:206 Australia, Literature of (The develop-Boxing (From bare knuckles to gloves) Ibn Saud, 1:3 ment of the novel), A:830 Iraq (The Persian Gulf War), 1:347 Savery, Thomas [British inventor] B:498 Sayings of the High One, The poem Kuwait (History), K:345 Industrial Revolution (The steam en-Middle East (Recent developments), gine), 1:213 Edda, E:74 Newcomen, Thomas, N:178 Sb [symbol] Persian Gulf War, P:296 with picture Antimony, A:461 Steam engine (The first steam en-Riyadh, R:294 with picture gines), So:308 Sc [symbol] Royal families, R:421 with picture Scandium, S:121 Savings account Standard of living (table), So:275 Scab [physiology] Investment, 1:323 Blood (Controlling bleeding), B:397 World War II (table: The Allies), W:381 Savings bank, S:115 Sauerkraut with pictures Bank. B:93 Germany (Food and drink), G:120 Scab [plant disease] Savonarola, Girolamo (Italian religious Apple (Pests and diseases), A:478 Saul [king of Israel], S:113 reformerl, S:115 Barley (Diseases and insect pests), David, D:44 Botticelli, Sandro, B:484 Jews (The Kingdom of Israel), 1:113 Reformation (Religious causes), R:181 B:112 Palestine (Early history and Hebrew Fungicide, F:487 Savonnerie rug Potato (Diseases and insect pests), settlement), P:102 Rugs and carpets (History), R:452

Savoy [Italian history], S:116

Scabbard

Savoy cabbage

Schertel, Baron Hanns von (German

engineerl

Rayonet, B:163 with picture Scanning [electronics] Parrot (Kinds of parrots), P:200 with Scabies, S:118 Television (How television works). picture T:129: (The television camera) Scarlet Pimpernel. The book by Irch. 1:473 Skin (Infections), 5:470 Orczyl Scafell Pike [England], S:118 Scanning [poetry] Orczy, Baroness, O:491 Ingland (Surface features). E:270 Metre, M:384 Scarlet runner bean Scalawags [American history], S:118 Scanning electron microscope Bean (Kinds of beans). B:166 Atom (How scientists study atoms). Scarplands Burns and scalds. B:664 England (Surface features), E:270 Electron microscope, E:178 with pic-Scat singing First aid, F:144 lazz (The 1920's), 1:75 tures Scale (biology) Microscope (Other kinds of micro-Scattering Bud B:612 with picture Light, L:260 Rutterfly (Wings). B:686 with pictures scope). M:443 Scavenger Scanning probe microscope, S:121 Fish F:167 with pictures Dinosaur (Getting food), D181 Pangolin, P:129 with pictures with picture Fish (How fish get food), F:172 Microscope (Other kinds of micro-Reptile (Skin), R:232 with pictures Scelidosaurus scope), M:443 Snake, S:505 Scanning tunnelling microscope Dinosaur picture on, D:178 Scale (measurement) Scenery Atom (How scientists study atoms), Interior decoration, 1:283 Ballet, B:53 with picture Map. M:187 Railway, Model (Buildings and sce-Microscope (Other kinds of micro-Ratiway, Model, R:113 nery), R:114 with pictures scope), M:443 Thermometer (Temperature scales), Scanning probe microscope, S:121 Theatre (Kinds of scenery), T:197 Scenes from the Mesozoic work by Scapa Flow, S:122 with picture Scale (music) Scapegoat, S:122 Classical music (The baroque period), Day, Clarence, D:51 Scaphold [anatomy] Ch60 Scent (zoology) Hand (Parts of the hand), H:39 Kev. K:240 Territoriality, T:159 Wrist, W:421 Music (The elements of music), M:729 Scent hound Scapula [anatomy] with diagrams Petit basset griffon vendéen, P:326 Back. B:17 Scale hopper Scent station Collarbone, Ci:164 Grain store, G:286 Fox (The life of a fox), F:378 Shoulder, S:398 with diagram Scale insect, S:119 with picture Scepticism, S:123 Skeleton (The appendicular skeleton), Scale of values Philosophy, P:424 S:461 with diagram Instrument, Scientific, 1:267 Sceptre (symbol) Scar. S:122 Scale, Weighing, S:119 Coronation (The British coronation), Keloid, K:212 Scalene triangle [geometry] Cl:362 with picture Scarab, S:122 with pictures Triangle (Kinds of triangles), T:397 Crown jewels (Orbs and sceptres), Beetle, B:198 with diagram Cl:461 with picture Insect (table), I:262 Scallop (shellfish), S:120 with picture Gem picture on, G:71 Scarborough [England], S:123 Scalp [anatomy] Schachter, Stanley (American psychol-Scarborough Ishipl Hair, H:10 First Fleet (The fleet), F:148 Head, H:92 Emotion (Modern theories about emo-Scarface [film] Scalpel Film industry (Films in the 1930's). tion), E:230 Knife, K:297 Scheduled airline Surgery (Instruments), So:437 F:102 Airline (Kinds of airlines), A:205 Hawks, Howard, H:87 Scalping Scheduled flight Hughes, Howard Robard, H:342 Indian, American (Why the Indians Aviation (Airline operations), A:879 Scarlatti, Alessandro litalian comfought), 1:146 Scheele, Carl Wilhelm [Swedish chem-Scaly-breasted thrasher poser], S:123 istl. S:124 Classical music (The baroque period), Thrasher, T:228 Air (The study of air), A:188 Scanderbeg [Albanian leader] CE60 Glycerol, G:216 Albania, A:230 with picture Overture, 0:526 Oxygen (History), 0:538 Scarlatti, Domenico (Italian composer), Scandinavia, S:120 with map Priestley, Joseph, P:776 Furniture (Modern Scandinavian de-S:123 Science (The Age of Reason), S:148 Scarlet fever, S:123 Scheer, Reinhard [German admiral] sign), F:507 Disease (table), D:190 See also Denmark; Norway; Sweden Jutland, Battle of, J:175 Theatre, T:204 with picture Fever, F:65 World War I (The war at sea), W:370 ^{Sca}ndinavian Alrlines Scarlet ibis Scheherazade (music by Rimsky-Bird picture on, B:330 Alriine (table), A:207 Korsakovi ^{Scan}dinavian literature, S:120 lbis, 1:2 Rimsky-Korsakov, Nikolai, R:278 Scarlet Letter, The lbook by Haw-See also list of Related Articles Schelde River, S:124 Theatre (Scandinavia), T:204 with picthornel Belgium (The land), B:218 with map American literature (The romance), Schelling, Friedrich Wilhelm Joseph Scandium (element), S:121 A:314 von [German philosopher], S:124 Hawthorne, Nathaniel (His novels), Scanner [electronics] Scherbo, Vitali (gymnasti Automation picture on, A:872 Olympic Games picture on, 0:439

Novel (The United States), N:313

Scarlet macaw

Bird picture on, B:331

Desktop publishing, **D:134**

Laser, L:70; picture on L:69

Scanning

Schlegel, August Wilhelm [German au-

German literature (Romanticism).

thorl

Webern, Anton. W:127 C-109 Hydrofoil (Modern hydrofoil develop-Schlegel, Friedrich (German author) Scholarship, S:127 ment). H:403 German literature (Romanticism). Rhodes Scholarship, R:256 Scherzo (music), 5:124 Scholasticism, S:127 Schiaparelli, Glovanni V. litalian as-See also list of Related Articles Language (The science of language). tronomer Christianity (The Middle Ages), C485 1354 Mars (Dark Areas), M:221 Middle Ages (Learning and the arts). Schleiden, Matthias (German botanist) Schiele, Egon [Austrian artist], S:124 Biology (Materialistic physiology and with picture Philosophy (Medieval philosophy), Austria (Painting), A:861 the cell theory), B:307 P5424 Schikaneder, Emanuel (German libret-Cell (Before 1900), C:303 Political science (The development of Schlesinger, Frank (American astronopolitical science). P:653 Opera (Magic Flute, The), 0:471 Yerkes Observatory, V:452 Roman Catholic Church, R:340 Schiller, Johann Christoph Friedrich Schleswig-Holstein (European history) Schönbein, Christian Friedrich Gervon [German dramatist], S:125 man chemistl Beethoven, Ludwig van (Beethoven's Denmark (The Schleswig wars), D:116 Schleyer, Johann Martin (German Guncotton, G:428 place in music history), B:195 priest Ozone 0:542 Drama (Romanticism), D:297 Universal language, U:265 Schönberg, Arnold German literature (The Storm and See Schoenberg, Arnold Stress movement), G:108 Schlick, Moritz [German physicist] Goethe, Johann Wolfgang von (Middle Positivism (Logical positivism), P:709 Schongauer, Martin [German painter], Schlieffen Plan vears), G:228 S:127 Ioan of Arc, Saint (The memory of Joan World War I (The Western Front), Engraving (History), E:297 School, S:128 with pictures of Arc). I:122 W:356 Child (The early school years), C405; Wallenstein, Albrecht Wenzel Schliemann, Heinrich (German archae-(Poor performance in school) Euseblus von. W:25 ologistl. S:126 Schindler's Ark [novel by Keneally] C:408 Archaeology (The 1800's), A:504 Australia, Literature of (Modern nov-Communication (At school), Ci:228 Mycenae, M:748 els). A:832 Troy (The archaeological Troy), T:422 with picture Dolphin (The common dolphin), Di251 Schindler's Ark (book by Keneally) Schmalkaldic League, S:126 Keneally, Thomas, K:215 Schmidt Crater with picture Schiphol [Netherlands] Moon, M:585 with picture Finland (Education), F:117 Netherlands (Transportation), N:97 Schmidt Telescope India picture on, 1:65 Schipperke [dog], S:125 Palomar Observatory, P:110 See also Education Kenya (Education), K:227 with picture Dog picture on. D:235 Telescope (Refracting-reflecting tele-Nursery school, N:354 with pictures Schirra, Walter M., Jr. (American astroscopes), T:114 Paris (Schools and libraries), P:182 nauti Schmidt, Bernhard [German optician] Space exploration (Vostok and Mer-Pet (Pets in school), P:320 Telescope (Refracting-reflecting tele-Reading (Working with the school), cury: The first human beings in scopes), T:114 space), So:145; (Voskhod and Schmidt, Helmut [German chancellor]. Gemini: The first multiperson Safety (Safety at school), 5:11 S:126 with portrait space flights) So:148; pictures on Segregation (The beginning of Schmitt, Harrison H. American astro-So-147 change), \$:239 Schism Social work (Schools), So:8 Space exploration (Other moon land-Christianity (The split between East (ngs). So:153 School (zoology) Fish (How fish live together), F:174 and West), C:485 Schnauzer [dog] Herring (Appearance and habits), Eastern Orthodox Churches (History), Giant schnauzer, G:152 with picture H:183; (Commercial fishing) H:183 F-47 Miniature schnauzer, M:490 Pope (The early Middle Ages), P:676 Whale (Group life), W:210 Schneider Trophy Roman Catholic Church (Split with the Aeropiane (The golden age), A:81 School camping East). R:340 Schneider, Hannes Camping, C:68 School for Scandal, The Imusic by Bar Schist Skiing (The development of modern Rock (Metamorphic rock), M:309 with skiing), S:467 berl picture Schnitzer, Eduard Barber, Samuel, B:106 School for Scandal, The lplay by Shell-Schistosome See Emin Pasha Flatworm, F:222 Schnitzler, Arthur [Austrian author], danl Fluke, F:273 Drama picture on, D:295 S:126 Sheridan, Richard Brinsley, 5:355 Schistosomiasis, S:125 Austria (Literature), A:861 School of Athens [painting by Raphael Animal (Importance of animals), A:378 German literature (Impressionism), Raphael (His works), R:138 with pic-Schizophrenia [mental disease], S:125 G:110 Brain (Brain chemistry and mental ill-Schnozzola: The Story of Jimmy Du-Renaissance (The fine arts), R:217 with ness), B:516; (Genetic disorders) rante (book by Fowler) B:517 Durante, limmy, D:352 picture Catalepsy, C:255 "Schoolroom Poets" Schoenberg, Arnold, S:126 American literature (Poetry), A:314 Mental illness, M:352 Austria (Music), A:860 Shock treatment, S:388 Ballet (Existing music), B:53 Sailing (Yawls, ketches, and schoo-Schooner Tranquillizer, T:337 Berg, Alban, B:242

Classical music (The 1900's), Cl:62

Opera (The search for new forms),

OMGG

Schopenhauer, Arthur [German phl-

losopherl, S:134

Schorl (mineral) Tourmaline, T:313

Schouten, Willem Cornelis Dutch navigator

Admiralty Islands. A:50 Cape Horn, C:136 Tonga (History), T:295

Schreiner, Olive |South African writer|

Schrieffer, John Robert [American physicist Bardeen, John, B:109

Nobel Prizes (Physics), N:227 Superconductivity, So:428 Schrödinger equation

Schrödinger, Erwin, S:135 Schrödinger, Erwin [Austrian physicistl S:135

Born, Max. B:469 Dirac, Paul Adrien Maurice, D:186

Physics (Quantum theory), P:477 Quantum mechanics (History), 0:6 Schubert, Franz Peter Austrian com-

poserl, S:135 with portrait Classical music (Songs), Cl:57; (The romantic era) Ci:61 with picture

Schuler, Max [German engineer] Inertial guidance (History), 1:227

Schuller, Gunther | American com-

Jazz (New directions), J:78 Schulz, Charles Monroe (American

cartoonistl, S:136 Schumann, Clara (German pianist),

S:136 Brahms, Johannes (His life), B:508

Schumann, Robert (His life), S:137 Schumann, Robert (German com-

poserl, S:136 with portrait Brahms, Johannes (His life), B:508 Classical music (The romantic era),

Schumann, Clara, S:136

Schuster, Sir Arthur [German-born physicist), S:137

Schutzstaffel troops See SS troops Schwann cell

Nervous system (Parts of a neuron),

Schwann, Theodor [German physioloalsti

Blology (Materialistic physiology and the cell theory), B:307 Cell (Cell research), C:303

Schweitzer, Albert (German philosopherl, S:137 with portrait Gabon, G:2

Nobel Prizes (Peace), N:234 with portrait

Schwinger, Julian S. [American physi-

Nobel Prizes (Physics), N:227 Quantum electrodynamics, Q:6

Schwyzerdütsch [language] Switzerland (Language), So:494 Sciatic nerve (anatomy)

Leg (Blood and nerve supply), L:154 Sciatica, S:137

Sciatica Idisorderi, S:137

Science: The Glorious Entertainment (book by Barzun)

Barzun, lacques, B:123

Science and Health with Key to the Scriptures (book by Eddy)

Eddy, Mary Baker, E:75

Science and Poetry |book by Richards| Richards, I. A., R:268

Science and technology

World, History of the, W:358 Science and the Modern World [book

by Whiteheadl

Whitehead, Alfred North, W:237 Science, S:138 with pictures

See also list of Related Articles

Colonial life in America, Ci:185 Electricity, E:166

Greece, Ancient, G:349; picture on

G:351 Philosophy (Philosophy and science).

PH422 Rome, Ancient, R:376

Science fiction, S:151 See also list of Related Articles Wyndham, John, W:426

Science for the Citizen book by Hooben! Hogben, Lancelot, H:242

Science in History [book by Bernal] Bernal, John Desmond, B:258

Science of Logic (book by Hegel) Hegel, G. W. F., H:133

Scientific balloon Balloon, B:61 with pictures

Scientific classification See Classification, Scientific

Scientific creationism, S:152

Scientific Instruments

Geography (How geographers work), G:89

Scientific method Education (The Age of Reason), E:94

Inductive method, 1:205 Philosophy (Modern philosophy),

Science (How scientists work), S:141 World, History of the (The Renaissance). W:348

Scientific observation

Space exploration (Conducting scientific observations and research), So:138

Scientific revolution

Mathematics (Mathematics and the scientific revolution), M:260 Science, S:146

Scientific satellite

Satellite, Artificial, S:97 with picture Space exploration (Other moon landings), So:153 Scientology [religion], S:152

Scilly, Isles of, S:152 with picture and map

Scintillator

Telescope (Gamma ray telescopes), T:116

Grafting, G:282

Sciortino, Antonio iMaltese sculptori. S:153

Scipio Africanus, Publius Cornellus (Roman general), S:153

Hannibal (The turning point), H:55 Numidia, N:350

Rome, Ancient (Expansion overseas), D-277

Scissorbill

Skimmer, S:468

Scissors, S:153 with picture

Scissors kick Surfing. So:436

Swimming, So:484

Sciera (anatomy)

Eye (The sclera and the cornea), E:435 with diagram: (Diseases of the sclera) E:442

Scieritis

Eye (Diseases of the sclera), E:442

Sclerometer Hardness. H:59 Sclerophyli forest

Eucalypt forests, E:346 with pictures

Scierosis, Multiple See Multiple sclerosis

Scierotia (fungus) Frant. E:318

Sclerotinia Wilt. W:263

Scobee, Francis R. (Dick) (American astronaut)

Space exploration (The Challenger disaster), So:160

Scofield, Paul (British actor), S:154 with portrait

Film industry (Best performance by an actor), F:96

Scollosis (disorder), S:154

Scone, Stone of, S:154

Edward I, E:93

Westminster Abbey picture on, W:195 Scoop bill

Bird picture on, B:350

Scoop [book by Waugh] Waugh, Evelyn, W:103

Scooter See Motorcycle

Scopes trial (U.S. history), 5:154 Darrow, Clarence Seward, D:37

Tennessee (History), T:140 Scopes, John Thomas (American

teacherl Darrow, Clarence Seward, D:37 Scopes trial, S:154

Tennessee (History), T:140

Scopolamine Mandrake, M:151

Nightshade, N:217

Opera (table), 0:457; (The elements of opera) 0:457

Score (satellite)

Satellite, Artificial (Important satellites), S:96

Score orienteering

Orienteering, 0:497

Rock (Extrusive rocks), R:307

Scots law

See Scottish law

Scottish United Services Museum Scots Musical Museum. The work by Scorpio [astrology], S:155 Edinburgh (Art galleries, libraries, and Scorpion (animal), \$:155 with picture Rumel museums). F:77 Animal (Providing protection), A:408; Burns, Robert, B:663 picture on A:390 Scott, Andrew George Scotus, John Duns See Duns Scotus, John Whip scorpion, W:228 See Moonlight, Captain Scoundrel Time | book by Hellman Scorpion fly linsectl. S:155 with picture Scott. David R. [American astronaut] Insect (table), 1:262 Space exploration (Voskhod and Gem-Hellman, Lillian, H:145 Scorpion orchid ini: The first multiperson space Scouring rush flights). So:148; (Other moon land-See also Horsetail Orchid picture on, 0:490 Scotch thistle ings) So:153: picture on So:154 Rush. R:460 Scott, lames [Australian surveyor]. Scout Thistle, T:222 Bee (Swarming), B:188 Scotch whisky S-174 Alcoholic beverage, A:238 Scott, Robert Falcon [British explorer]. See Scouting England (Food and drink), E:267 S:174 Space exploration (Launch vehicles) Antarctica (Exploration), A:442 with So:132 with picture Scotland (Food and drink), S:161 Whisky, W:229 Scout (American frontiersman), S:177 Scotland, S:156 with pictures and maps Exploration (Polar exploration), E:427: Scouting, S:178 with pictures See also list of Related Articles (table) E:427 Arms (Arms of Scotland) pictures on. Oates, Lawrence Edward Grace, 0:376 Barge, B:109 A-589 Scott, Sir George Gilbert (British archi-Scramming Caledonia, C:33 tectl. S:174 Nuclear energy (Hazards and safe-Central Region, C:321 Scott, Sir Giles Gilbert (British archiquards), N:326 Crown lewels (The Honours of Scottectl. S:174 Scraper land). Ci:461 Westminster, Palace of, W:195 Construction equipment (Earth-moving Gaelic language, G:7 Scott, Sir Peter (British artist), S:174 machinery), Ci:310 Gaelic literature, G:7 Scott, Sir Walter (Scottish author), Scrapie (disease) Gaels, G:7 Prion. P:788 S:174 Highland games, H:199 Dandie Dinmont terrier, D:30 Scratch carving Highland Region, H:199 Ettrick and Lauderdale, E:346 Woodcarving, W:303 Hogmanay, H:242 Irving, Washington (Years In Europe). Scratching foot Home rule, H:253 Bird picture on, B:350 Kings and queens of Britain and Ire-Novel (Great Britain), N:312 Scrawled filefish land (Early rulers of Scotland and Scottish literature (1800-1900), S:176 Fish picture on, F:163 Scream, The [painting by Munch] Wales). K:262 Scott, Thomas Alison Australian pio-Expressionism (Expressionist painting), Kings and queens of Britain and Ireneerl, S:174 land (Rulers of Scotland, 1093-Scott, Thomas (Canadian public figure) 1371), K:265 Munch, Edvard picture on, M:700 Red River Rebellion, R:173 Kings and queens of Britain and Ire-Scott, Thomas Hobbes [Australian ed-Screen land (The Stuarts in Scotland). ucatorl, S:174 See Projection screen K:272 Scott, Sir Walter [Scottish author] Screen printing Printing (Screen process printing), Picts. P:488 Scotland (Arts), S:162 Rugby football (Organization), R:445 P:786 Textile (Finishing the fabric), T:173 Scotland Yard [police], S:174 Scottish terrier, S:177 Scotland, History of, S:167 with pic-Scottish (people) Screening programme Medicine (Prevention), M:307 tures Gaels, G:7 Screw [hardware], S:183 with pictures Civil War, English (War with the Scots), Scottish Certificate of Education Cl:44 Machine, M:13 with picture General Certificate of Education (GCE), Edward I, E:93 C:76 Screw (propeller) England (The beginnings of Parlia-Propeller, P:807 with pictures Scottish deerhound, S:175 with picture Ship (The chief parts of a ship), \$:383 ment), E:276 Wolfhound, W:288 Scotland, Kingdom of [Scottish history] Scottish Episcopal Church Screw-cutting lathe Scotland, History of, S:168 See Episcopal Church, Scottish Screw (History), S:184 Scotland, History of (Independent Scottish Highland pipe Imusical instru-Screw press Invention (Ancient Greece), 1:315 Scotland), S:170 Scotland, History of (The Renaissance Bagpipe, B:27 with picture and dia-Screw (History), S:184 kings), S:171 gram Screw, Archimedean Scotland, History of (The union of the See Archimedean screw Scottish law, S:175 Scriabin, Alexander [Russian contcrowns), S:172 Scottish literature, S:176 Scotland, History of (The War for Inde-See also list of Related Articles poserl, \$:184 pendence), S:169 Scottish National Gallery of Modern Scribbly gum [tree] Eucalypts (Gum trees), E:347; picture United Kingdom, History of the (The union of the Kingdoms), U:138 Edinburgh (Art gaileries, libraries, and on E:349 museums), E:79 Scribe, S:184 Book (The Middle Ages), **B:455** England (The Germanic invasions), Scottish Office, The [government] Communication (During the Middle Scotland, S:157 Scotland, History of (Picts, Scots, An-Scottish terrier, S:177 Ages), Ci:230 Education (Sumerian and Egyptian edgles, and Britons), S:168 Dog picture on, D:233

Scottish Trades Union Congress

Trade unions (United Kingdom), T:331

ucation), E:89

Egypt, Ancient (Education), E:121

Moldova (History), M:529

scribe, Augustin Eugène (French play-Scullard, Howard Haves English histowrightl, S:184 rianl S:185 Ukraine (History), U:12 French literature (Realism), F:448 Scullin, lames [Australian political] Scribner, Charles, Ir. [American publeader). S:185 with portrait See Strategic Defence Initiative Sculling Se (symbol) lisherl Rowing (Boats), R:414 Selenium, S:244 Scribner, S:184 Scribner, Charles, Sr. (American pub-Sculpin [fish], S:185 Sculpture, S:186 with pictures See Ocean Sea anemone. S:220 with picture Africa, A:134 with pictures Scribner, S:184 Alabaster, A:223 with pictures Animal picture on. A:394 Scrimshaw Australia, Art and architecture of. Chidarian, Ci:118 lyory (lyory carving). 1:474 See bird A:785 Script Bird (Sea birds and birds of the Ant-Film industry (Development), F:82 with Baroque, B:116 arctic) B:336 with pictures picture; (Reviewing the script) Canada, C:80 F:84: (Holding rehearsals) F:86 Celtic art. C:309 Sea cave [geology] Cave (How caves are formed). C:283 Television (Writers), T:122 China. C:447 Sea cow. S:221 with picture Theatre (Acquiring a script), T:193: (In-Classicism (Greece). Ci:65 Extinction (Extinctions in modern terpreting the script T:193 Envot. Ancient. E:245 times) F:432 Gargoyle, G:44 with picture Writing (Scriptwriting), W:422 Manatee, M:142 with picture Germany, G:124 Scriptorium [room] Sea cucumber [sea animal], S:221 with Gothic art (Gothic sculpture and paint-Library (The Middle Ages), L:231 with picture ing), G:264 picture Animal (Regeneration). A:406 Humanism (The arts), H:363 Manuscript (European manuscripts of China (Food), C:443 Impressionism, £47 the Middle Ages), M:172 Echinoderm picture on, E:52 Inca picture on, 1:50 Scriptures Trepang, T:394 Italy, 1:458 Bhagavad-Gita, B:265 Sea duck (bird) Japan, 1:45 Bible, B:270 Duck (Kinds of ducks), D:339 with pic-Marble (Uses). M:198 Mahabharata, M:62 Maya (Arts and crafts), M:280 with picturo Ouran, O:32 Sea elephant tures Ramayana, R:129 Mobile, M:523 with pictures See Seal Talmud, T:18 Sea fan, S:221 with picture Nigeria (The arts), N:210 Vedas, V:320 Coral picture on, Ci:348 Noguchi, Isamu, N:237 with picture Scriptwriting Sea fishing Prehistoric people (The appearance of Writing, W:422 Fishing (Sea fishing), F:186 art), P:758 Scrofula (disease), S:184 Sea floor Relief, R:194 with pictures Scroll, S:185 with picture Ocean (The land at the bottom of the Renaissance (The fine arts), R:217 with See also list of Related Articles sea), O:395 picture Painting (Chinese painting), P:49 with Sea-floor spreading Rome, Ancient, R:376 picture Atlantic Ocean (The ocean bed), A:718 Soap scuipture, So:1 Scrooge, Ebenezer (literary figure) Continental drift, Ci:316 South Africa, Art of, So:74 Dickens, Charles (The first phase), Earth (The shaping of the continents), United Kingdom, Arts of the, U:87 with D:460 picture Scrotum (anatomy) Ocean (How the sea floor was formed), Sculpture in the round Human body (The reproductive sys-O:398 Sculpture (Kinds of sculpture), S:190 tem), H:358 Plate tectonics (Divergent plate bound-Sculpture (India), S:197 Reproduction, Human (In males), aries), P:584 Sculthorpe, Peter [Australian com-R:226 Sea fog [weather] poser), S:219 Sex (Boys and girls), S:290 Fog, F:284 Scunthorpe (England), S:219 Testicle, T:162 Sea gooseberry Scurvy [disease], S:220 Scrub Ctenophore, Ci:471 Cook, James (Life on Cook's ships), Plant, P:549 with picture Sea gull, S:221 Scrub typhus CI:331 See also Gull Rickettsia, R:272 Cranberry, Ci:414 Sea horse First Fleet, F:148 Scrubber See Seahorse Nutrition (Vitamin deficiencles), N:368 Air cleaner (Other types of air clean-Sea-island cotton Phillip, Arthur (The colony's early ers), A:189 Montserrat (Economy), M:581 years), P:417 Air pollution picture on, A:203 Sea Lapps ipeoplel Scutching Coal (Pollution control), Cl:132 Lapland, L:63 Flax (Growing and processing fibre Deodorizer, D:122 Sea lavender Scrum flax), F:222 Statice, So:301 with picture Scylla (Greek mythologyl, S:220 Rugby football, R:445, R:447 Thrifts, T:230 Scruple [unit of measure], S:185 Scyphozoa Sea lettuce lellyfish, J:82 Apothecaries' weight, A:473 Seaweed picture on, S:231 Scuba diving Scythe [tool], S:220 Sea level, S:221 Colonial life in America picture on, Diving, Underwater, D:208 Sea lily, S:222 with picture Marine biology (Biological oceanogra-Cl:184

Wheat (The mechanization of wheat

farming), W:224

Scythlans

phers), M:210

ing) S:472

Skin diving, S:471; (Kinds of skin div-

Sea lion

Mammal picture on, M:135

Seal (Flippers), S:225; (Young) S:226

Seadragon [submarine]

Northwest Passage, N:290

Season, S:229 with picture Seagull, The [play by Chekhov] Sea mammal, S:222 See also list of Related Articles Chekhov, Anton, C:363 Cetacean, C:330 Drama (Russian drama and Chekhov). Calendar C:33 Dugong, D:340 with picture Farth (How the earth moves). E:18 with Manatee M:142 with picture D-208 Sea cow. S:221 with picture Seaguil diagram Season in Hell, A (book by Rimbaud) Sea otter. S:222 with picture See Sea gull French literature (Symbolism), F:449 Seal. S:224 Seah Eu Chin [Chinese businessman]. Rimbaud, Arthur, R:277 Sirenia, S:456 Season of Adventure book by Lam-Walrus. W:28 with picture Seahorse [fish], S:224 with picture Whale. W:203 with pictures Animal (Providing shelter), A:408 minol, L:35 Sea of Chinnereth (Old Testament) Seahorse [ship] Seasoning (cooking) Spice, So:216 Galilee, Sea of, G:12 with map Nelson, Horatio (loins the Navy), N:71 Seal [emblem], S:227 Sea of Fertility (book by Mishima) Seasoning lindustrial process! Persia, Ancient picture on, P:295 Leather picture on, L:142 Mishima, Yukio, M:508 President of the United States picture Timber, T:252 Sea of Galilee See Galilee, Sea of Seasons, The oratorio by Haydol Sea of lanan Sculpture (Kinds of sculpture), S:190: Haydn, Joseph, H:90 (indus Valley) S:196: picture on Seasons. The poem by Thomson See Japan, Sea of Sea of Japan, Battle of the Thomson, lames, T:224 Russo-lapanese War (Last battles). World, History of the picture on, Seated boshisattva (sculpture) W:334 Sculpture (China), S:200 with picture Sea otter [animal], S:222 with picture Seal [sea animal], S:224 with pictures SEATO Sea parrot See also list of Related Articles See Southeast Asia Treaty Organiza-Antarctica (Animal life), A:440 Puffin, P:850 with picture tion Sea pen [sea animal] Fur (table), F:488 Seattle [U.S.A.], S:230 Animal picture on, A:394 Hand (Animal hands), H:39 Seawater Conservation (Water conservation), Sea pink Sealer Thrifts, T:230 Paint (Household paints), P:23 Cl:295 Sea serpent (imaginary marine crea-Sealing industry Invention picture on, I:319 turel, S:223 lodine (Sources of iodine), 1:325 New Zealand, History of (The sealing Sea snake and whaling industries), N:166 Ion 1:325 Snake, S:516 Sealing wax, S:227 Magnesium, M:50 Ocean (Composition), 0:388; pictures Sea squirt [sea animal], S:223 with pic-See also Seal [emblem] ture Sealyham terrier, S:227 on O:386 Sea star Dog picture on, D:233 Seawater fish Fish (How fish adjust to change), F:175 See Seastar Seam (geology) Sea tide Seawater, Purification of Coal (How coal was formed), Ci:120 See Tide Salt (Salt from the sea), S:56 Seam (sewing) Water (Fresh water from the seal, Sea trout Sewing, S:287 Fishing (Game fishing), F:185 Seanad Éireann W:79 Weakfish, W:108 Seaweed, S:231 with pictures Dublin, D:329 See also list of Related Articles Sea turtle Ireland, Government of, 1:362 Animal (Animal travellers), A:410 lodine (Sources of Iodine), 1:325 Irish Constitution (Form of govern-Turtle, T:474 Pacific Ocean (Importance of the ment), 1:379 Sea urchin [sea animal], S:223 with pic-Oireachtas, 0:421 ocean), P:15 ture Séance Sargasso Sea, S:91 Animal (Providing food), A:406: (Home Mesmer, Franz, M:370 Sebaceous gland ranges) A:409; picture on A:394 Acne, A:24 with picture Ouija board, 0:522 Gland (Exocrine glands), G:183; (table) Echinoderm picture on, E:52 Spiritualism (The medium), So:232 Sea Venture [ship] Seanchus Mór [Irish history] G:183 Bermuda (History), B:257 Hair (Glands and muscles), H:11 Brehon laws, B:552 Sea walnut [zoology] Seaplane Skin (Glands), S:470 Animal (A classification of the animal Aeroplane, A:89 Wen. W:152 kingdom), A:414 Sebastian, Saint, S:232 Seaguake Sea wasp [sea animal], S:224 Tidal wave, T:240 Sebastopol Jellyfish, J:82 with picture Search and rescue team See Sevastopol Sea, Law of the Police, P:640 Sebastopol goose See Law of the Sea Treaty Search warrant, \$:228 Goose, G:254 Seabed Arms Control Treaty Seborrhoea (disorder) Warrant, W:40 Disarmament (History), D:186 Search, Right of Dandruff, D:30 United Nations (Peaceful uses of outer Right of search, R:276 Secant [geometry] Circle (Parts of a circle), Ch5 space and the seabed). U:180 Searle, Ronald (English artist), S:228 Seaborg, Glenn Theodore | American Trigonometry (Right-angled triangles), with picture chemistl, S:224 Sears, Roebuck and Company, S:228 See also list of Related Articles Seascape T:401 Curium, Ci:501 Painting, P:35 Secco painting Nobel Prizes (Chemistry), N:229 Seashore, S:228 Mural, M:703 Painting (Fresco painting), P:40

Seasickness

Motion sickness, M:648

Secco recitative

Opera (table). 0:457 West, Morris, W:155 League of Nations, L:135 Secession Building [Austria] Second World Architecture (Early modern architec-Third World, T:220 ture in Europe), A:532; with pic-Second World War See World War II ture Second Afghan War (1878-1881) Secondary aging India, History of (High tide of imperial-Aging (Types of aging), A:159 Secondary battery Second lunit of measurel. S:232 Battery (Kinds of batteries), B:154: (How secondary batteries work) latitude, L:100 Minute, M:504 Time (Measuring time). T:256 Secondary bow Rainbow, R:120 Second Cantata Imusic by Webernl Secondary colour Webern, Anton, W:127 Second-class letter Colour (Mixing colorants), Ci:194; (Producing colour harmony) Ci:198 Post Office (Classes of mail), P:712 Secondary consumer Second-class lever Ecology (Energy flow), E:57 lever L:197 with diagram Forest (The flow of energy), F:350 Machine (Lever), M:13 Secondary industry Second Continental Congress Industry (Other systems of classifica-Continental Congress, Ci:316 tion), 1:224 Second-degree burn Secondary recovery Burns and scalds (Classification of Petroleum (Enhanced recovery), P:346 burns), B:664 (How oil is recovered) P:347 First aid (Burns and scalds), F:144 Skin (Burns), S:470 Secondary root Plant (Roots), P:553 Second Empire [French history] Root (Kinds of roots), R:392 France (The revolution of 1830 and Secondary school 1848), F:414 Education (The Renaissance), E:93 Napoleon III (Becomes emperor), N:24 High school, H:198 Second Golden Age of Glass School (The schooling ladder), S:128; Glass (History of glass), G:195 The control and funding of Second Hundred Days, The schools) S:134 New Deal, N:110 United Kingdom, Educational systems Second International of the, U:95 with picture International, The. 1:288 Secondary source Second Jungle Book, The book by History (Choosing and evaluating sources). H:224 Kipling, Rudyard (His works), K:286 Secondary succession Second law of motion [physics] Ecology (Changes in communities), Force (Measuring force), F:337 Mass, M:244 F-57 Secondary tissue Motion (The second law), M:647 Root (Secondary tissues), R:393 with Newton, Isaac (The theories of motion and gravitation), N:187 Stem (Woody stems), So:316 Second person Secret ballot (voting) Person, P:299 Second Punic War Rallot, B:66 Secret City, The (book by Walpole) Hannibal (His early life), H:55 Walpole, Sir Hugh Seymour, W:27 Rome, Ancient (History), R:377 Secret Garden, The (book by Burnett) Second Republic [French history] Burnett, Frances Hodgson, B:662 France (The revolution of 1830 and Secret History of the Mongols, The 1848), F:414 Genghis Khan (Rise to power), G:84 Napoleon III (Becomes emperor), N:24 Secret Life of Walter Mitty, The [film] Revolution of 1848, R:247 Kaye, Danny, K:204 Second Seminole War "Secret Life of Walter Mitty, The" Indian wars (In the South (1813-1842)), Istory by Thurber Thurber, James, T:233 Second Sex, The book by Beauvoir Secret police, S:232 Beauvoir, Simone de, B:175 Second Star of Africa Gestapo, G:143 Crown jewels (Crowns), Ci:459 with KGB, K:241 Union of Soviet Socialist Republics picture Second String Quartet Imusic by Boro-(Stalin's policies), U:34 Secret Service Security Service, S:233 Borodin, Alexander, **B:471**

Secretarial work, S:232

Commonwealth of Nations, Ch225

Secretariat

Second Symphony Imusic by Borodini

Second Victory, The book by West

Borodin, Alexander, B:471

United Nations (The six major UN organs), U:162: U:167 Secretary Cabinet C:3 Parliamentary procedure, P:194 Secretary bird, S:233 with picture Animal picture on, A:385 Bird picture on. B:326 Secretary-general Address, Forms of, A:41 United Nations, U:167 with pictures Secretion, S:233 Secretory cells [biology] Fallopian tube, F:16 Islam (Sects), I:416 Religion (Hinduism), R:202 Secular lew Israel (Religion), 1:432 Secularism Political science. P:654 Secured debt Bond (Kinds of bonds), B:444 Debt. D:63 Investment (Bonds), 1:323 See also Stocks and shares Unit trust, U:38 Securities Act (1933) New Deal (Helping savers and investors), N:109 Securities and Exchange Commission (SEC) New Deal (Helping savers and Investors), N:109 Security Airport, A:215 Computer (Computers and security), War (War for security), W:32 Security Council [UN] Big Five. **B:285** Dumbarton Oaks, D:344 International law (After World War II). 1:292 International relations (International conferences and organizations), Persian Gulf War (Irag's Invasion of Kuwait), P:297; (The end of the war) United Nations, U:166 with picture; (The six major UN organs) U:162 Security Service, S:233 Sedan, Battle of Franco-Prussian War (Progress of the war), F:423 Sedative, S:233 Drug (Depressants), D:313 Seddon, Richard New Zealand political leader New Zealand, History of (The Liberal era (1890-1912)), N:172 Sedge (plant), S:234 Sedgefield [England], S:234 Sedgemoor [England], S:234 Sedges, John Buck, Pearl S., B:608 Sedgman, Frank [Australian tennis

Hemp, H:149

Plant, P:543 with pictures; (Sexual re-Seidler, Harry (Australian architect) playerl, S:234 production) P:556 with pictures S:240 Tennis (table), T:147; (table) T:148 Seidlitz powder Seed potato Sediment Soda, So:15 Potato (Planting and cultivating), P:719 Earth (History of the earth), E:25 with Seigneurial system [land], \$:240 with picture Seeder (machine) Seikan Tunnel (Japan) Fossil, F:368: (Tracing the develop-Tunnel (History), T:445 ment of life) F:369 Drill, D:308 Island (Barrier Islands), 1:423 with pic-Seeding agent (meteorology) Seine net [fishing] Rainmaking (Rainmaking methods). Fishing industry, F:191 R:121 with diagrams Seine River, S:240 Ocean (Deap-sea peaks, valleys, and Paris. P:175 with picture; (The city) plains), 0:398 Seeger, Pete [American folk singer]. Petroleum (How petroleum was S:238 with portrait P:178 formed). P:339 River (table), R:290 Seeina eve Dog. Guide. D:240 with picture River (The channel of a river), R:289 Seismic wave Silt, S:427 Seek and Find [work by Rossetti] Earthquake (How an earthquake Sedimentary cape Rossetti, Christina Georgina, R:404 spreads), E:34 Beach, B:164 Seepage Seismology, S:241 Sedimentary rock, S:234 Irrigation (Bringing irrigation water to Tidal wave. T:240 See also list of Related Articles farms), 1:406 Waves, W:103 Coal (How coal was formed), Ci:120 Seismograph, S:240 with diagrams with diagram Prophet. P:809 Earthquake (Recording, measuring, Earth (The earth's crust), E:19 with pic-Sefer ha-Kuzari (book by Halevi) and locating earthquakes), £37 ture Halevi, Iudah, H:21 Gas (Exploring for gas), G:51 Petroleum (Geological studies), P:342 Feldspar, F:48 Hebrew language and literature (Medieval works), H:129 Fossil, F:368; (Tracing the developwith diagram ment of life) F:369 Richter magnitude, R:271 Seferis, George Gem (Sources of gems), G:71 See Greek literature Seismology, S:242 Gneiss, G:217 Space exploration (Other moon land-Sefton [England], S:238 Granite, G:295 Segal, George American sculptori. ings). So:153 Palaeontology, P:101 S:238 with picture Seismology, S:241 Petroleum (How petroleum was Segmented worm Geophysics, G:99 formed), P:339 Animal (A classification of the animal Science (Geology), S:140 Rock, R:308 with pictures kingdom). A:414 Seismograph, S:240 Stratified rock, So:348 Earthworm, E:39 with picture and dia-Seismosaurus Sedimentation tank Dinosaur (Saurischians), D:177 arams Prehistoric animal (Dinosaurs), P:745 Sewage (Primary treatment), S:284; Invertebrate, 1:322 Sekoto, Gerard [South African artist], (The activated sludge process) Worm, W:411 with pictures S:284 Sego lily S:241 South Africa, Art of (Impressionism Sedimentology Mariposa lily, M:211 with picture and Expressionism), So:69 with Geology (table), G:92 Segovia, Andrés (Spanish guitarist), Sedition, S:234 picture Freedom of the press. F:437 Selametan Iceremonial feast Segrè, Emilio (American physicist) Sedum (plant), S:234 with picture Astatine, A:677 Indonesia. I:182 Selangor [Peninsular Malaysial, S:241 See, Holy Nobel Prizes (Physics), N:227 Pope. P:673 Physics (Advances in the mid-1900's), with pictures and map Seebeck, T. J. (German physicist) P:478 Selassie, Haile Thermocouple, T:214 Technetium, T:81 See Haile Selassie Seed, S:235 with pictures Segrave, Sir Henry (British racing Selby [England], S:243 See also list of Related Articles Selected Essays (work by Eliot) driverl, S:239 Cotton (Uses of cotton), Ci:381 Eliot, T. S. (His works), E:211 Segregation, S:239 Selected Essays [work by Williams] Famine (Effects of famine), F:25 See also list of Related Articles Williams, William Carlos, W:258 Hemp, H:149 Anti-Semitism, A:464 Selected journalism (work by James Plant, P:555 with pictures Apartheid, A:469 Plant (Seed dispersal), P:565 with pic-Boycott, B:502 Ageel Eisenhower, Dwight David (Second Agee, James, A:158 Selected Poems (1942-1968) ipoetry by Tree, T:378 with pictures administration), E:134 Seed coat Ghetto, G:149 Campbell Maize (How the plant develops), M:72 King, Martin Luther, Jr., K:253 Campbell, David, C:63 Selected Writings [poetry by Olson] with diagram Segregation, Law of Plant (Seeds), P:555 with diagram Heredity (Mendel's laws), H:172 Olson, Charles, 0:431 Seed (The parts of a seed), S:235 with Sei Shonagon [Japanese author] Selection acts, S:243 diagrams Japanese literature (The Heian period), Selection [biology] Seed flax J:63 Breeding, B:551 Flax, F:222 with picture Natural selection, N:48 Sei whale Seed hemp Whale, W:207; picture on W:204 Selective pesticide Pesticide (Pesticides and the environ-Hemp, H:149 Seibert, T. Laurence (American song-Seed plant writer] ment), P:319 Selene [Greek mythology], S:244 Cabbage (Cultivation), C:2 Jones, Casey, J:138

Selche [wave], S:240

Endymion, E:244

Sempach, Battle of

Switzerland picture on, So:500

Selenium (element), S:244 Selkirk, Earl of (Scottish colonizer). Semiconductor diode Seleucid dynasty, S:244 5:245 Semiconductor, S:247 with picture lordan (Early days), 1:144 Canada, History of (Exploration of the Semiconductor laser ludah Maccabee, 1:153 Westl C:99 Laser 1:73 with disgram Palestine (Invasions and conquests). Selkirkshire (Scotland) Semiconductor laser P:103 Borders Region, B:466 Electronics (Electronics and light). Persia, Ancient, P:295 Sellers, Peter British actorl, 5:245 F-190 Taiikistan (History), T:14 Sellina Semiconductor Consumerism (The right to informa-Flectronics (Solid-state components) Seleucus I (Seleucid king) picture on, E:188 Babylon (The fall of Babylon). B:12 tion). Cl:313 Flectronics (Terms used in electron-Persia, Ancient (The Seleucid dynasty). See also Salesmanship ics) F-185 Selling race P:295 Horse racing (Types of horse races), Semifixed amountaion Seleucid dynasty, S:244 Ammunition, A:336 H:307 Self-Analysis (book by Horney) Semihydraulic-fill dam Selva (South America) Homey, Karen, H:283 South America (The Central Plains). Dam (Kinds of dams), D:12 Self-contained air conditioners Semilunar valve [anatomy] Air conditioning (Room air condition-Sor@2 Selvon, Samuel [Caribbean writer]. Heart (Valves), H:102 ersl. A:193 Seminal vesicle Self-deception (philosophy) 5/245 Selwyn Mountains Gland (table), G:183 Existentialism, E:415 Prostate gland, P:811 Rocky Mountains (Chief ranges of the Salf-defence Reproduction, Human (In males), Rockies), R:327 See Judo: Karate: Martial arts R:226 Selwyn Range [Australia], S:245 Self-excited generator [electricity] Selve, Hans [Canadian scientist]. S:245 Seminary, S:248 Electric generator (Kinds of DC gener-Seminiferous tubule (anatomy) Semantics (language), S:245 ators), E:149 Communication (Linguistics), Ci:236 Testicle, T:162 Self-government Seminole (tribe) Linguistics (The components of a See Government: Home rule Indian, American (Indians of the grammar), 1:293 Self-hypnosis Southeastl, I:153 Syntax, Sp:518 Hypnotism (Dangers of hypnotism), Seminole Indians Semanhore, S:245 H:415 Indian wars (in the South (1813-1842)), Flag (Hand signal flags), F:214 with pic-Self-Immunity Disease (Immunological diseases), Seminole Wars Signalling (Visual and sound signals), D:194 Indian wars (In the South (1813-1842)), Self-inductance 1-175 Telegraph (Development of the tele-Inductance, 1:205 Semiotics graph), T:102 Self-lubricating bearing Peirce, Charles Sanders, P:246 Semarang [Java], S:246 Bearing (Plain bearings), B:173 Semiramide (opera by Rossini) Self-pollination Rossini, Gloacchino Antonio, R:404 Bee (Life of the honey bee), B:186 Flower, F:264 Semiramis (mythical queen of Assyria), Breeding (Animal breeding), B:552 Pollen, P:656 5:240 Infertility, 1:228 Self-propelled ammunition Semisubmersible rig Penis, P:260 Ammunition, A:336 Great Barrier Reef (Places to visit), Prostate gland, P:811 Self-rake reapers G:314 Reproduction, Human (In males), Reaper, R:161 Petroleum (Offshore drilling), P:344 R:226 Self-realizing expectation Semites (people), \$:248 Sex (Puberty), S:290 Recession (Causes of recession), R:162 See also list of Related Articles Semenov, Nikolal N. [Soviet scientist]. Self-reflective fiction Asia (The people), A:630 S:246 American literature (Fiction and other Babylonia (History), B:15 Semi-terete hybrid orchid prose), A:320 Ebla lancient kingdoml, E:50 Orchid picture on, 0:490 "Self-Reliance" [book by Emerson] Ethiopia (Population, ancestry, and lan-Semiarid soil American literature (Nonfiction prose), quages), E:338; (Early days) E:340 New South Wales (Climate), N:130 A:314 Mesopotamia, M:371 Semiautomatic defrosting Self-report (psychology) Sumer (History), So:407 Refrigeration, R:187 Personality (Ratings and self-reports), World, History of the (The Tigris-Semiautomatic rifle Euphrates Valley), W:332 Rifle, R:274 with picture Self-winding watch Semitic languages, S:248 Semicircular canal Watch (Mechanical watch), W:66 Alphabet (The Semites), A:282 with Ear (Parts of the ear), E:8; (The inner Selfridge, Thomas E. [American officer] pictures ear) E:8 with diagram Aeroplane (Other pioneer planes and Education (Sumerian and Egyptian ed-Ear (The sense of balance), E:11 fliers), A:80 ucation), E:89 Seljuks (ancient people), \$:244 Semicolon Egypt, Ancient (The people), E:121 Punctuation, P:856 Armenia (History), A:580 Semmelwels, Ignaz Philipp [Hungar-Semiconductor, S:246 Iran (The rise of Islam), 1:338 ian doctori, S:248 See also list of Related Articles Middle East (Islamic empires), M:456 Antiseptic (History), A:464 Electric current, E:143 Muslims (The Seljuk Turks), M:744 Medicine (Introduction of antiseptic Electric eye, E:144 Turkey (The Seljuk Turks), T:462 surgery), M:317 Electricity (Principles of electricity), Turks, T:469

E:168; (table) E:168

Insulator, Electric, 1:271

Selkirk, Alexander [Scottish castaway],

S:244

nses, S:255 with diagrams

Separate Tables [play by Rattigan] See also list of Related Articles Winkelried, Arnold von, W:276 Rattigan, Sir Terence, R:144 Bird. B:351 emple, Bob (New Zealand political Separated ammunition Cat. C:245 leaderl Ammunition, A:336 Frog. F:465 New Zealand, History of (The first La-Separately excited generator jelec-Horse, H:294 bour government (1935-1949)), tricity Mammal, M:129 Electric generator (Kinds of DC generénégal River Whale, W:209 ator), E:149 Sensible perspiration Mali (Land and climate), M:115 Separating isotope Perspiration, P:302 Senegal (Land and climate), \$:251 Sensitive plant, S:256 with picture Isotope, I:427 enanavake, D. S. (Sri Lankan political Separation negative Sensitivity training, \$:256 leaderl Sensor lelectronics Printing (Process colour printing). Sri Lanka (History), So:258 Automation, A:872: (How automation F:785 enapati, Fakir Mohan (Indian writer) India, Literature of (Progressive literaworks) A:874 with diagram Separatists Canada, History of (The Quebec, Bomb (Guided bomb), B:435 ture). I:129 separatist movement), C:105: (The enate, S:248 Burglar alarm, B:650 separatist threat) C:106 Ignition (The direct fire ignition sys-Canada, Government of, C:93 Puritans (Puritans in America). P:867 Congress of the United States, Ci:283 tem), 1:29 Separator Remote sensing, R:213 with picture Constitution, Cl:309 Sensorineural hearing disorder Battery (Carbon-zinc cells), B:154 Refrigeration (Gas refrigerator), R:185 Address, Forms of, A:41 Deafness (Types of hearing disorders), Television, T:132 endak, Maurice (American author), S:250 Separator [machine] **Sensory cortex** Brain (The cerebrum), B:511 Butter (History), B:679 eneca [tribe] Indian, American (Indians of the North-Sensory memory Centrifuge, C:324 with picture Milk (At a processing plant), M:467 Memory, M:341 eneca, Lucius Annaeus (Roman au-Sensory nerve with diagram Rubber (Processing latex), R:434 Reflex action, R:179 Drama (Tragedy), D:288; (Elizabethan Sensory neuron Sephardic (language) Hebrew language and literature (The playwrights) D:291 Human body (The peripheral nervous Geology (The Romans), G:92 Hebrew language), H:129 system), **H:359** Latin literature (The Imperial Period). Nervous system (How the nervous sys-Sephardim |people| tem works), N:81 Israel (People), I:431 enefelder, Alois [German writer], Sentence (grammar), S:257 Jews, J:112 S:250 Clause, Ci:69 Sepik (river), S:261 Papua New Guinea (Rivers), P:152 with Printing (Printing by offset lithogra-Conjunction, Ci:286 phy), P:783 Grammar, G:287 picture enegal, S:250 with pictures and maps Sculpture (Pacific Islands sculpture), Parsing, P:203 Flag picture on, F:201 Semantics, S:246 S:204 Food picture on, F:293 Syntax, So:518 Sepiolite French West Africa, F:454 with map Sentence (law), S:258 Meerschaum, M:324 Mali (History), M:116 Sentence outline Sepoy Rebellion enescence Outline, 0:523 East India Company, E:40 Aging (Types of aging), A:159 Sentimental Education, A book by Indian Revolt, I:171 Geriatrics, G:105 Flaubert Septal defect Heart (Abnormal openings in the enet igamel Flaubert, Gustave, F:222 Sentimental Tommy [book by Barrie] Egypt, Ancient (Recreation), E:122 heart), H:108 enghor, Léopold Sédar (president of Barrie, Sir James Matthew, B:119 September [month], S:262 Calendar (Ancient calendars), C:35 Senegall, S:254 Sentimentalism Senegal (History), S:253 with picture American literature (The sentimental September equinox enility, S:254 Equinox, E:316 with diagram novel), A:311 September Massacres [French history] enior citizen Russian literature, R:498 French Revolution (The Legislative As-Old age. 0:425 Seoul (South Koreal, S:258 with picture enlac (English history) Korea, K:318 with picture sembly), F:452 Hastings, Battle of, H:75 Seow Yit Kin [Singapore musician], Marat, Jean Paul, M:196 ennacherib [king of Assyrial, S:255 5:261 Septet (music by Saint-Saëns) Babylon (The Old Babylonian Empire), Sepak raga Saint-Saëns, Camille, S:44 B:11 Malaysia (Sports and pastimes), M:88 Septic arthritis Arthritis (Other forms of arthritis), ennett, Mack [Canadian film director], Sepal [botany] Campion, C:69 A:607 ense and Sensibility [book by Austen] Flower (The calyx), F:261 with picture Septic tank Sewage (Rural sewage systems), S:285 Austen, Jane, A:748 Orchid (Parts of orchids), 0:489 Water pollution (Sewage), W:89 Plant (Flowers), P:555 with picture ense organ Amphibian, A:341 Wood anemone, W:301 Septicaemia Blood poisoning, B:401 Ant, A:429 Separate development [political pol-Septuagint [Old Testament], \$:264 Fish (Special organs), F:170 Bible (The first translations), B:275 Perception, P:278 South Africa, So:56 Dead Sea Scrolls, D:54 Reptile, R:232 Separate loading ammunition

Ammunition, A:336

Library (Libraries of papyrus), L:229

Mythology (Mythical symbols), M:752

Fagle (Other kinds of Eagle), E:5

Sea sement, \$:223 Serpent eagle (bird)

Old Testament (Translations), 0:427	Marino, La
entum	San Marino, S:67
Heart (Muscular walls), H:101	Serf, S:269
Nose, N:303	Manorialism, M:167
equestration order	Ukraine (Lithuanian and Polish rule),
Bankruptcy, B:95	U:12
equoia (tree), S:264 with pictures	Serfdom
Tree picture on, T:371	Germany, G:132
equoyah (Cherokee Indian), \$:265	Russia (Ivan the Terrible), R:485
erajevo	Serge [fabric], S:269
See Sarajevo	Indian American, 1:130
erape	Sergeant
Mexico (Clothing), M:406	Police (Police around the world), P:64
erapis [Egyptian god], S:266	Sergeant at arms, S:269
erbia (Yugoslavia), S:266 with pictures	Sergeant major damselfish
and map	Fish picture on, F:163
Austria-Hungary, A:868	Sergeant York [film]
Balkans (Early history), B:44; (The First	Hawks, Howard, H:87
Balkan War) B:44; (The Second	Serialism
Balkan War) B:44	Classical music (The 1900's), Ci:62
Croatia, Cl:444; (History) Cl:446	Schoenberg, Arnold, S:126
Francis Joseph, F:421	Seriation
Hungary (Austria-Hungary), H:382	Archaeology (Classification), A:503
Macedonia (History), M:9	Series [mathematics], S:269
Milosević, Slobodan, M:475	Series circuit
Montenegro (History), M:575	Electric circuit, E:142 with diagram
United Nations (The Yugoslav con-	Electricity (Electric circuit), E:169
flicts), U:179	Series connection
World War I (The rise of nationalism),	Electric generator (Kinds of DC gene
W:362; (Beginning of the war)	ator), E:149
W:364	Electric motor (Kinds of electric
Yugoslavia, Y:470	motor), E:154
erbian Orthodox Church	Series motor Electric motor (Kinds of electric
Montenegro (People), M:575	Electric motor (Killes of electric
Novi Sad, N:317	motor), E:154
Serbia (People), \$:266	Sertf Alphabet (Capital letters), A:283
Yugoslavia (Way of life), Y:471	Alphaber (Capital setters), / sales
erbo-Croatian language	Serigraphy [art] Printing (Screen process printing),
Bosnia-Herzegovina (People), B:473	Printing (Screen process printing)
Croatia (People), Ci:444	Silk-screen printing, S:425 with pic-
Montenegro (People), M:575	tures
Serbla (People), S:266	Serious otitis media (disorder)
Yugoslavia (Population and ancestry),	Ear (Diseases), E:12
Y:471	Serkin, Rudolf [Bohemian composer]
Serbs [people]	S:271
Croatia (People), Ci:444	Sallo Sabastiano (Italian set designi
Serbia (People), S:266	Drama (The Italian stage), D:290 with
Yugoslavia (Ancestry and population),	picture
Y:471	Sermon on the Mount
Serbs, Croats, and Slovenes, King	Beatitudes, B:174
dom of the	Golden rule, G:240
Slovenia (History), S:494	Golden rule, dia 14

Haral

Serotine

Serotonin

Serpent

O'Hara, John, 0:417

Bat (Kinds of bats), B:148

gers), **B:516**

M:353 Serous membrane

Membrane, M:341

Adam and Eve, A:29

poet), S:271

Yugoslavia (History), Y:474

Austria-Hungary, A:868

Belgrade (History), **B:224**

Macedonia (History), M:9

Serbia (History), S:268

Serenade [music], **S:269**

Serengeti National Park

Mozart, M:681

dom of the

Serbs, Croats, and Slovenes, King-

Bosnia-Herzegovina (History), B:475

Montenegro, M:575; (History) M:575

Croatia, Ci:444; (History) Ci:446

Slovenia, \$:492; (History) 5:494

Yugoslavia (A new nation), Y:474

Tanzania, T:31; (Animal life) T:34

Serenissima Repubblica di San

Serpent star Brittle star. B:582 Serpentine [ballistics] Handoun (History), H:43 Sementine Iminerall, S:271 Serra, Junípero iFranciscan missionaryl, S:271 Sertão Brazil (The Northeast Region), B:539 Sertorius (Roman general) Pompey the Great, P:666 Serum [physiology], S:272 Disease (Preventing disease), D:197 Immunization (Passive immunization), E44 Serval (animal), S:272 with picture Servetus, Michael [Spanish doctor], S:272 Heart (Discovery of circulation), H:111 Service Religion (Religious rituals), R:199 Service cooperative Cooperative, Ch337 Service industries, S:273 Economics (Economic problems), E:60; (Government and the economy) E:63: (Public services) E:63 See also Economy sections of the various country articles Service module Space exploration (Vostok and Mercury: The first human beings in space), So:145; (Apollo: Mission to the moon) So:148 Service, James (Australian political leaderl, S:272 Service, Robert William |Canadian poetl, S:272 Servo Aeropiane, Model (Radio control models). A:107 Servomechanism, S:273 Sesame Iplanti, S:273 with picture erl Sesotho [language] Lesotho (People), L:185 Sesshu (Buddhist monk), S:273 with pic-Sessions, Roger [American composer], S:273 Sermons and Soda Water book by O'-Set (Egyptian god) See Seth Set [mathematics] Serote, Mongane Wally South African See Set theory Set (sports) African National Congress, A:180 Tennis (Scoring), T:143 Set [theatre] Drama (The Italian stage), D:290 with picture; (England) D:294 with pic-Brain (The brain's chemical messenture; (Early realism) D:298 Film industry (Production), F:86 with Mental illness (Chemical imbalances), pictures Theatre (Working with the designers),

T:194; (Set design) T:197 with pic-

Set of ordered pairs [mathematics]

by Lawrencel

Lawrence, T. E., L:121

Algebra (Functions), A:257

Set theory [mathematics], S:274 with Stead. Christina. So:307 pictures and diagrams Addition, A:36 Seven seas, S:279 Seven Sleepers of Ephesus [legend], Algebra, A:251 Arithmetic (Counting and grouping), Seven Types of Ambiguity poetry by Boolean algebra, B:462 Empson! Empson, Sir William, E:233 Infinity, 1:229 Seven Weeks' War [1866], S:279 Mathematics (Branches of mathematics), M:256 Bismarck, Otto von (Bismarck's wars). Seta Moss (How mosses live), M:637 Francis Joseph, F:421 Seth [god], S:278 Germany (The unification of Germany), Seth, Vikram (Indian writer) G:133 India, Literature of (Contemporary Seven Wonders of the Ancient World, S:279 with pictures and trends), I:129 SETT Extraterrestrial intelligence, E:434 Babylon (The New Babylonian Empire), Seti I [king of ancient Egypt], S:278 B:13 Egypt, Ancient (The New Kingdom), Ephesus, E:311 E:130 Seven Years' War, S:282 Ramses II. R:131 See also list of Related Articles Valley of the Kings, V:303 American Revolution (Background and Setswana [language] causes of the war). A:323 Botswana (People), B:482 George II. G:100 Setter (dog), S:278 Germany (The rise of Prussia), G:132 Dog pictures on, D:226, D:227 Massachusetts, M:246 Settignano, Desiderio da litalian Pitt, William, P:525 sculptor Quebec, Battle of, Q:11 Sculpture (Early Renaissance), S:211 United States, History of the, U:240 Setting the World on Fire work by Sevenoaks (England), S:283 Wilsonl Kent (Local government), K:219 Wilson, Sir Angus, W:261 17-vear locust linsectl Settlement, Act of, S:278 Cicada (Types of cicadas), Ck1 Settlers and Convicts (book by Harris) Seventh-day Adventists [religious Australia, Literature of (Early prose), group!, S:283 A:630 77 Dream Songs [work by Berryman] Seurat, Georges [French artist], S:278 American literature (Poetry), A:319 Brack, John, B:505 Berryman, John, B:260 Painting (Postimpressionism), P:77 Severn, River [England], S:283 with picture England (Rivers and lakes), E:271 Seuss, Dr. [American writer], S:278 with Seversky, Alexander Procofieff de portrait See De Seversky, Alexander Procofieff Pen name, P:252 Seville [Spain], S:283 Sevastopol [Ukraine], S:279 Seville orange Black Sea, B:376 with map Orange, 0:482 Seven Against Thebes | play by Aes-Sèvres porcelain chylus Porcelain (European porcelain), P:689; Aeschylus, A:108 picture on P:688 Seven Brides for Seven Brothers [mu-Sèvres, Treaty of, 5:283 sical Turkey (After World War I), T:464 Dancing (Dancing since 1900), D:28 World War I (The Paris Peace Confer-Seven Cities of Cibola ence), W:375; (Provisions of the See Cibola, Seven Cities of treaties) W:375 Seven Deadly Sins, The Imusic by Sewage, S:283 Weilli Environmental pollution (Water pollu-Weill, Kurt, W:141 tion), E:303 with picture; (Causes Seven Gothic Tales [work by Dinesen] of pollution) E:306 Dinesen, Isak, D:173 Sanitation, S:74 Seven Lamps of Architecture, The Waste disposal, W:65 [book by Ruskin] Water pollution, W:89; (Control) W:90 Ruskin, John, R:460 Seward, William Henry (American Seven League Boots [book by Halliburstatesman), S:285 Sewell, Anna [British author], S:285 Halliburton, Richard, H:22 Sewer Seven Pillars of Wisdom, The [book See Sewage

Sewer rat

Rat (The body of a rat), R:141

Seven Poor Men of Sydney (book by

Sewerage Sewage (Urban sewerage systems). 5:284 with diagram Sewing, S:285 with diagrams See also list of Related Articles Beadwork, B:165 with pictures Fur (Cutting and sewing), F:491 with pictures Sewing machine, S:287 with pictures Howe, Elias, H:334 with picture Needle, N:66 with picture Singer, Isaac Merrit, S:453 Sewing needle Needle, N:66 Sex. S:289 See also list of Related Articles Heredity (How a person's sex is determined), H:167 with diagrams Sex cell Cell (Metosis), C:297 with pictures Heredity (The structure of chromosomes and genes), H:166; (Sex cells and reproduction) H:166 Human body (The reproductive system), H:358 Sex chromosome Haemophilia (How haemophilia is inherited), H:5 with diagram Mental retardation (Causes), M:357 Sex education, S:292 Calderone, Mary Steichen, C:33 Sex hormone Adrenal gland, A:57 Hormone (Growth and sex hormones), Lipid (Complex lipids), L:303 Sex Information and Education Council of the United States (SIECUS) Calderone, Mary Steichen, C:33 Sex-linked recessive gene abnormal Muscular dystrophy, M:716 Sex ratio, S:292 Sex role [behaviour] Aggression, A:159 Child (The preschool years), C:404 Homosexuality (Causes of homosexuality), H:258 Parent (The role of parents), P:173 Sex, S:290 Sextant linstrumentl, S:292 with picture Navigation (Celestial navigation), N:52 with picture Star (Measuring direction and position), So:283 Sextilis (month) Calendar (The Romans), C:35 Sexton beetle See Burying beetle Sexton, Anne American poet American literature (Poetry), A:319 Sexual Behavior in the Human Female [book by Kinsey]

Kinsey, Alfred Charles, K:285

(book by Kinsey) Kinsey, Alfred Charles, K:285

Sexual development

Sexual Behavior in the Human Male

Freud, Sigmund (His Influence), F:458

Sedimentary rock, S:234

Electric meter, E:153

gineer]

Shallenberger, Oliver B. [American en-

Calendar (The Islamic calendar), C:35 Shah Alam (Malaysia) Sexual dimorphism Selangor (Places to visit), S:243 Prehistoric people (Homo habilis), Shahunt Shah Jahan [Mughal ruler], S:296 See Shavuot P:752 Delhi (History), D:97 Sexual intercourse Shackle India, Art of (Islamic architecture), 1:87 Adolescent (Social development), A:53 Handcuffs, H:40 g with picture; (Art In craft-AIDS (Prevention), A:180 Shackleton, Sir Ernest Henry [irish explorerl, S:295 work) t:90 Rirth control (Methods of birth con-Mongol Empire (Breakup), M:559 Antarctica (Early exploration), A:442 trol). B:367 Muchai Empire, M:683 Exploration (table), E:427 Human body (The reproductive sys-Tai Mahal, T:12 Shad [fish], S:295 with picture tem), H:358 West Bengal (European traders), Penis, P:260 Colour (Mixing colorants), Ci:194 Rane, R:137 Shah, Prithwi Narayan Nepalese Reproduction, Human (Fertilization), Shadoof leader Agriculture, A:171 Nepai (History), N:77 Shadow, S:295 Reproduction (Fertilization), R:225 Shahn, Ben [American painter], S:297 Sculpture (Light and shadow), S:191 Sexually transmitted disease, \$:293 with picture Shadow and Actiwork by Ellson Vagina, V:299 Shahnai (musical instrument) Ellson, Ralph, E:218 Sexual orientation India, Dance and music of (Musical in-Shadow [West African folk tale] Homosexuality (Causes of homosexualstruments), 1:94 Literature for children, L:320 ity), H:258 Shah-Namah (book by Firdausi) Shadow Cabinet Igovernment Sexual Perversity in Chicago [play by United Kingdom, Government of the Firdausi, F:125 Mametl Shailendra (Her (or His) Majesty's opposition), Mamet, David, M:124 Indonesia (Dynasties and temples), Sexual reproduction 6794 Shadow of a Crime, The book by Animal, A:404 with diagram Shaka [Zulu warrior], S:297 Cainel Bird (Laying and hatching eggs), B:346 Natal, N:28 Caine, Sir Hall, C:15 Evolution (How characteristics are in-South Africa, Art of (The influence of Shadow of a Gunman, The lplay by O'herited), E:407 traditional culture), So:70 with Fish (How fish reproduce), F:176 with picture Irish literature (The Irish literary revipictures South Africa, History of (Turmoil in the val). I:383 Heredity (Sex cells and reproduction), interior), So:79 O'Casey, Sean, O:383 HHGG Zulu, Z:509 Shadow on Summer, A [book by Human body (The reproductive sys-Shakers ireligious group, S:297 with Brown tem), H:358 picture Brown, Christy, B:592 Shakespeare, William English writeri, Plant, P:556 with pictures Shadow play, S:296 Reproduction, R:223 with picture S:298 with pictures Puppet, P:865 with picture See also list of Related Articles Reproduction, Human, R:225 Shadow puppet theatre Drama picture on, D:284; (Elizabethan Sponge, So:235 Wayang, W:107 playwrights) D:291 Sexuality [psychology] Shadows on the Grass work by Freud, Sigmund (On behaviour), F:457 Fairles (Fairles in literature), F:11 Dinesenl Sexually transmitted disease (STD), Falstaff, F:18 Dinesen, Isak, D:173 Folger Shakespeare Library, F:285 S:293 Shadwell, Thomas English poet Folklore (Folklore and the arts), F:290 AIDS (How HIV is transmitted), A:179 Dryden, John, D:327 Chlamydia, C:474 Ghost, G:150 Shaffer, Peter Levin (British play-Herpes, Genital, H:182 Macbeth, M:6 wrightl, S:296 Moon (Literature and music), M:594 Infertility (Causes), 1:228 Shaft [anatomy] Shakespearean sonnet Prostitution, P:812 Bone (Structure of the bones), B:446 Poetry (Forum), P:614 Sexwale, Gabriel "Tokyo" (South Afri-Shakespeare, William (The sonnets), with diagram can politician) Hair (The structure and growth of hair), Gauteng, G:65 S:322 H:11 Seychelles, S:294 with picture and map Shaking palsy Parkinson's disease, P:189 Shaft furnace Flag picture on, F:201 Iron and steel (History), £400 Shakuntala (play by Kalidasa) Seymour, Edward **Shaft mine** Drama (India), D:296 See Somerset, Duke of Coal (Underground mining), Ci:125 Seymour, Jane Shakyamuni with diagram Edward VI, E:94 Buddha, **B:613** Iron and steel (Underground mining), Henry VIII, H:152 Shale Uranium (Sources of uranium), U:272 Seymour, William Joseph Ireligious Mining (Underground mining meth-Shale irockl, S:328 leader) ods), M:493 with diagram Earth picture on, E:20 Pentecostal churches (Major Pentecos-Shaftesbury, Earl of Oil shale, 0:420 tal churches), P:268 Rock (Clastic sediments), R:308 with Shaftesbury, S:296 Seyss-Inquart, Arthur von Austrian Shag rugs and carpets picture; (Metamorphic rock) Nazil, S:295 Rugs and carpets, R:449 Sforza, Ludovico [Duke of Milan] IE:309 Shagbark hickory

Hickory, H:191 Shah [title], S:296

Mohammad Reza Pahlavi, M:527

Reza Shah Pahlavi, R:249

Leonardo da Vinci (Years in Milan),

Leonardo da Vinci (Paintings), L:180

Shimato (drawing technique)

Shaban (month)

Shannon, River (Ireland), S:331

Sharps buffalo rifle Shallot [plant], S:328 with picture Ireland (Rivers and lakes), 1:358 Shallow [oceanography] Limerick (Land), L:280 with picture Rifle picture on, R:275 Shasta daisy Indian Ocean (The ocean bed), 1:171 Shantiniketan Burbank, Luther, B:648 Shallow cultivation West Bengal (Places to visit), W:161 Dry farming, D:327 Shanty [song] Shasta Dam Shallow draught hydrofoll Folklore (Folk songs), F:289 Dam picture on, D:12 Shastri, Lal Bahadur (Indian political Hydrofoil (Fully submerged hy-Shantytown [New Zealand] drofoils), H:402 Museum (History museums), M:718 leaderl, S:335 India, History of (The new republic), Shalwar-qamiz (clothing) Shape of Things to Come, The book Pakistan (Rural life), P:93 1:118; (Relations with Pakistan) by Wells) Shaman (medicine man), S:328 Wells, H. G., W:148 b:119 Indian, American (Shamans, priests, Shaping (industrial process) Shatt al Arab River Iron and steel (Shaping and finishing and prophets), 1:148 Iraq (The southern plain), 1:344 Lapland (Language and religion), L:63 steel), 1:395 with pictures Shavuot [festival], S:335 Magic (Elements of magic), M:45 Machine tool (Planing, shaping, and Judaism (Holy days and festivals), 1:156 Nepal (People), N:75 broaching), M:17 Pentecost, P:267 Shamash (judaism) Rubber, R:435 Shaw Memorial (sculpture by Saint-Hanukkah, H:57 Shapley, Harlow [American astrono-Gaudens Shambala [music by Hovhaness] mer), S:331 Saint-Gaudens, Augustus, \$:33 with Hovhaness, Alan, H:333 Shar-pei (dog), S:331 picture Shambles, The Shaw, George Bernard (Irish author), Sharaku ijapanese artisti, S:331 with pic-Manchester (Places to visit), M:144 S:335 with portrait with picture Japanese print (The master print art-Campbell, Mrs. Patrick, C:63 Shamir, Yitzhak [Israeli political Drama (English drama), D:299 ists), J:65 with picture leaderl, S:328 with portrait Share Irish literature (Drama), 1:383 Israel (Recent developments), 1:440 Investment, 1:323 Joan of Arc, Saint (The memory of Joan Peres, Shimon, P:279 Stocks and shares, So:332 of Arc), 1:122 Shamma [clothing] Sharecropper Nobel Prizes (Literature), N:232 Ethiopia (Way of life), E:339 Togo (Economy), T:275 Realism (In drama), R:160 Shampoo Shareholder Terry, Dame Ellen, T:160 Hairdressing (Caring for the hair), H:14 Business, B:674 with picture; (Limited Shaw, Henry Wheeler Shamrock [plant], S:329 with picture liability companies) B:673 See Billings, Josh Saint Patrick's Day, S:42 Shaw, Irwin [American novelist], 5:336 Shares Shang dynasty (Chinese history), S:329 Business (Limited liability companies), American literature (Fiction and other Asia (The Huang He and Yangtze Valprose), A:320 leys), A:657 Sharif, Omar Egyptian-born actor), Shaw, Louis A. [American inventor] China (Beginnings of Chinese civiliza-S:332 fron lung, I:403 tion), C:458 with map Shaw, Robert (American conductor), Sharifs [people] China picture on, C:448 Morocco (Corsairs and sharifs), M:615 S:336 Shaw, Runme (Chinese film producer), China (Sculpture and pottery), C:447 Shark Bay [Australia], S:335 with picture Shark, S:332 with pictures 5:336 Chinese language (Development), Animal (Adaptations for breathing), Shawn, Ted [American dancer] C:469 Dancing (Modern dance), D:23 A:399 Sculpture (China), S:200 Dogfish, D:241 with picture Saint Denis, Ruth, S:32 World, History of the (The Huang He Fish, F:154, F:156, F:167 with picture; Shawnee [tribe] Valley), W:335 with picture Indian, American (Indians of the North F:174 with picture; F:178; picture Shangane [people] on F:160 east), 1:152 Shawnee Prophet [Shawnee Indian re-South Africa (People), So:58 See also Whale shark Shange, Ntozake [American playwright] Tiger shark, T:246 ligious leaderl, S:336 American literature (Drama), A:321 Sharma, Shankar Dayal lindian politi-Shawwal [month] Calendar (The Islamic calendar), Cal Shanghai cal leaderl, S:335 with picture She Came to Stay book by Beauvoir Kidnapping, K:244 President picture on, P:765 Shanghai [China], 5:329 with picture Beauvoir, Simone de, B:175 Sharman, Helen (British astronaut) China picture on, C:431 Space exploration (European nations), She Done Him Wrong [film] Treaty Port, T:370 So:161 Grant, Cary, G:296 Shanghai Express [film] Sharon, Rose of West, Mae, W:155 Dietrich, Marlene, D:170 See Rose of Sharon She-oak [tree], S:352 Shango [religion] Sharp-tailed grouse She-oaks, S:352 She Stoops to Conquer [work by Gold-West Indies (Religions), W:166 Grouse, G:386 Shangri-La [book by Hilton] Sharp-tailed sandpiper smithl Hilton, James, H:205 Goldsmith, Oliver, G:243 Bird picture on, B:338 Shankar, Ravi (Indian musician), S:330 She Would if She Could [play by Sharp, Cecil (English folk music collecwith picture tor], S:335 Etheregel India, Dance and music of (History), Sharp, Granville British social re-Etherege, Sir George, E:335 formerl, S:335 Shear wave Earthquake (Why earthquakes occur), Sitar picture on, S:458 Sierra Leone (History), S:413 Shankaracharya [Hindu philosopher], Sharpeville [South African] F:33

South Africa, History of (Opposition to

apartheid), So:85

Seismology, S:241

Sheares, Benjamin Henry president

Bedouins, B:183

Cast and casting (Other types of castof Singaporel, S:336 Sheep tick Shearing [wool production], \$:337 with ing), C:232 Tick picture on, T:239 Sweets (Chocolates), So:478 Sheepdog, S:341 picture Ranching (Sheep stations), R:133 Border collie, B:466 Shell stitch Crocheting, Cl:447 with picture Scotland picture on, S:161 Sheepshead minnow Shellac (tree product), 5:349 Wool, W:311 with picture Minnow, M:499 Lac, L:7 Shearing machine Sheerness [England] Paint (Industrial paints), P:24 Wolseley, Frederick York, W:290 Swale. S:453 Varnish (Types of varnish), V:315 Sheet [boat] Shearing stress (physics) Sailing (Rigging), S:23 Shellbark hickory Strength of materials (How materials Hickory, H:191 react to force), So:353 Sheet erosion Shelley, Mary Wollstonecraft [English Erosion (How erosion occurs), E:322 Shearing the Rams [painting by Robauthorl, S:349 with picture ertsl Frankenstein, F:424 with picture Sheet-fed press Australia, Art and architecture of pic-Godwin, William, G:226 Printing (Rotary presses), P:783 ture on, A:782 Science fiction (Beginnings), S:151 Shearing, George (English pianist) Sheet lightning Shelley, Percy Bysshe (His life), S:349 Lightning (Forms of lightning), L:273 Jazz (The spread of jazz), J:77 Wollstonecraft, Mary, W:290 Sheet steel Shelley, Percy Bysshe [English poet], fron and steel (Rolling), 1:395 Machine tool, M:17 S:349 with portrait Sheffield [England], S:341 Scissors, S:153 March (Quotations), M:200 Conservation picture on, Ck:300 Shearwater [sea bird], S:337 Moon (Literature and music), M:594 Shehitah Petrel, P:328 Shelley, Mary Wollstonecraft, \$:349 Judaism (Dietary laws), J:156 Sheath [botany] Sheilfish Kosher, K:331 Grass (The grass plant), G:301 Crustacean, Ci:465 with pictures Sheik, S:341 Rice (Growth and reproduction), R:262 Fish, F:152 Asia (Country life), A:631 Sheath-tailed bat Mollusc, M:535 Shekel [money], S:341 Bat (Kinds of bats), B:148 Shelter, S:349 with pictures Coin collecting picture on, Ci:156 Sheba, Queen of (biblical figure) See also list of Related Articles Money picture on, M:547 Ethiopia, E:337 Animal (Providing shelter), A:408 Talent, T:16 Mother Goose (Who was Mother House, H:321 with pictures Shekhar, Chandra [Indian politica] Goose?}, M:644 Houseboat, H:327 with picture leader], S:341 with portrait Yemen (History), Y:450 Housing, H:328 with pictures Shelburne, Earl of iAnglo-Irish noble-Shebat (month) Prehistoric people (The first Homo manl. S:341 Calendar (The Hebrew Calendar), C:34 sapiens), P:753; (Neanderthals) Sheldon, William (American psycholo-She book by Haggard P:756 qist] Haggard, Sir Henry Rider, H:7 Shelter (sculpture by Hagg) Personality (Personality types), P:299 Shechem (ancient city) Sculpture (Environmental sculpture), Sheldonian Theatre Cities of refuge, C:14 S:218 Wren, Sir Christopher, W:414 Shed (weaving) Shem (Biblical figure) Shelduck [bird] Textile (Woven fabrics), T:171 Noah, N:225 Bird picture on, B:323 Weaving (Weaving on a loom), W:125 Shenyang (Chinal, \$:352 Duck (Kinds of ducks), D:339 with pic-Sheeler, Charles (American painter), Sheol [religion] ture S:337 Hell, H:144 Shelf [ammunition], S:341 Shepard, Alan Bartlett, Jr. (American Painting (American painting-1900-Ammunition (Artillery ammunition), astronauti, S:353 with portrait 1940), P:83 A:335; (How shells explode) A:336 Space exploration (Vostok and Mer-Sheen, Fulton John (American religious Shell [biology], S:342 with pictures cury. The first human beings in writer], S:337 Diatom, D:158 with pictures Sheep, S:338 with pictures space), So:145 with picture; Egg (The shell), E:97; diagram on E:98 (Other moon landings) So:153 Animal pictures on, A:382, A:383 Indian, American (Money), 1:149 Shepard, Ernest (British painter), \$:353 Bighorn, B:286 with picture Mollusc, M:535 with pictures Conservation (Australasia), Ci:303 with picture Money, M:547; pictures on M:548, Shepard, Sam (American playwright), Goat (Digestive system), G:222 M:550 Mutton, M:747 S:353 Nautilius, N:51 with picture American literature (Drama), A:321 Prion [disease], P:788 Pearl, P:233 with picture Shepheardes Calender, The poem by Queensland (Farming), Q:22 Scallop, S:120 with picture Ranching (Sheep stations), R:133 Spenserl Turtle, T:472 with pictures Spenser, Edmund (Spenser's other Waterhouse, Henry, W:99 Wampum, W:30 poems), So:213 Wool, W:310 with picture (Wool Shell [physics] Shepherd growing in Australia and New Atom (The electrons), A:725; diagrams See Shepherd life Zealand) W:312 on A:726 Shepherd Boy, A sculpture by Thor-Sheep bot fly Electron, E:178 Bot fly, B:478 valdsenl Element, Chemical (The Periodic Sculpture (European sculpture), S:212 Sheep farming Table), E:199 with picture Australia, History of (The wool indus-Shell marl Shepherd dog try), A:803 Marl. M:214 Ranching (Sheep stations), R:133 Sheepdog, S:341 Sheli membrane Sheep, 5:338 Shepherd life Egg (The shell), E:97; diagram on E:98

Shell moulding findustrial processl

South Australia (Agriculture), So:112

with picture

Shetland pony, S:357 with picture

Shingles Nomad, N:238 Horse (Ponies), H:290 with picture Sheep (Raising sheep), \$:340 Shetland sheepdog, S:358 Herpesvirus, H:182 Shepherd's pie Dog picture on, D:231 Skin (Infections), S:470 England (Food and drink), E:267 Shevardnadze, Eduard Shining, The book by Kingl Shepparton [Australia], S:353 Georgia (History), G:103 King, Stephen, K:255 Shinju Matsuri Festival (Australia) Sheppey, Isle of [England] Shevchenko, Taras (Ukrainian poet). Western Australia (Visitor's guide), Swale. So:453 Shepway [England], \$:353 with picture Ukraine (Arts), U:8 W:176 Shinkansen (bullet train) Kent (Local government), K:219 Shevuot Sher-gil, Amrita lindian artistl Electric railway, E:164 See Shavuot India, Art of (The colonial and modern Shi Huangdi [emperor of China], \$:358 Shinto (religion), S:360 with picture Archaeology picture on, A:500 periods), I:89 with picture Asia (Religions), A:625 Sher Shah Iruler of northern Indial Qin dynasty, Q:4 Feasts and festivals picture on, F:40 West Bengal (Early empires), W:160 Sculpture (China), S:200 God (Gods of nature), G:225 Sher Shah Surt [ruler of northern India], Shla Imami Ismaili Muslims Japan (Religion), J:43 5:354 See Ismaili Muslims Religion (How the major religions are Bihar (History), B:289 Shiba Inu (dog), S:358 organized), R:200; R:204 with pic-Sheraton, Thomas (English furniture Shield area designer), S:354 Earth (The earth's earliest history), E:26 Tokyo (Religion), T:283 Sheridan, Philip Henry (American gen-Shield, S:358 with picture Shinty Igamel, S:360 erall, S:354 with portrait Armour pictures on, A:583 Indian, American (Recreation), 1:139 Indian wars (The Southern Plains), Heraldry (Elements of a coat of arms), Shinwell, Emanuel (British politician), 1:176 H:160 S:360 Sheridan, Richard Brinsley lirish Indian, American pictures on, k:147 Ship, S:361 with pictures dramatist], S:355 with portrait See also Ablative shield: Heat shield See also list of Related Articles Drama (England), D:294 with picture Knights and knighthood (Armour), Air conditioning (Kinds of air condi-Hastings, Warren, H:75 K:302 tioners), A:193 Irish literature (Drama), 1:382 Shield-tailed snake Industrial Revolution (Waterways), Malaprop, Mrs., M:78 Snake, S:516 1:215; picture on 1:218 Sheriff and bailiff, S:355 Shield volcano Invention (The Middle Ages), 1:315 Police (United States), P:642; (History) Volcano, V:418 with picture Laser (Gulding), L:71 Shielded metal arc welding Navy, N:57 Sherlock, Jr. [film] Welding (Arc welding), W:143 Radar (In ship navigation), R:55 Keaton, Buster, K:208 Shifting cultivation Ship-burial Sherman Antitrust Act [1890] Sutton Hoo, So:452 with picture Africa (Rural life), A:128 Antitrust laws, A:465 Agriculture, A:165 Ship money, \$:386 Sherman, John Ames (American Inven-See also Slash-and-burn agriculture Hampden, John, H:33 torl United Kingdom, Armed services of Shiga Naoya (japanese author) Envelope, E:298 Japanese literature (The modern pethe (History), U:79 Sherman, John [American statesman], riod), J:64 Ship of Foois (book by Brandt) \$:355 Illustration (Printed illustrations), 1:33 Shigelia Sherman, Roger (American patriot), Dysentery (Causes and symptoms), Ship of Fools (book by Porter) S:355 with portrait D:366 Porter, Katherine Anne, P:697 Sherman, William Tecumseh | Ameri-Shigellosis Ship of the line Battleship (Development of the battlecan general], S:356 Dysentery (Causes and symptoms), American Civil War (Sherman in D:366 ship), B:158 Warship picture on, W:44; (The age of Georgia), A:308 Shih Huang-ti Sherpas [people], S:356 See Shi Huangdi sailing ships) W:46 Nepai (People), N:75 Shih Tzu (dog), \$:359 with picture Races, Human (Evolutionary theory), Rat (The body of a rat), R:141 Dog picture on, D:234 Ship, Model, \$:386 with picture Shiites (people), S:359 Sherritt, Aaron [Australian bushranger], Egypt (Muslim rule), E:115 Shipbuilding Colonial life in America (Logging and 5:356 Islam (Sects), 1:416 Sherry (drink) Ismaili Muslims, 1:425 shipbuilding), **Ci:185** Wine (Fortified wines), W:273; (Wine Sunnis, So:426 Japan (Manufacturing), J:51 styles from other countries) Shikoku [island] Ship. S:383 W:274; (Clarifying and aging the Vikings (Shipbuilding and navigation), Japan, 1:48 wine) W:275 Shilling [money], \$:359 V:389 with pictures Sherwood (England) Shiloh, Battle of Shipping See Newark and Sherwood American Civil War, A:307 Disaster (Accidents), D:188 Sherwood Forest (England), \$:356 Shin [anatomy] Freight, F:439 International Maritime Organization, Nottinghamshire (Places to visit). Skeleton diagrams on, S:460 N:307 1:293 Robin Hood, R:303 Baseball (Equipment), B:125 with pic-Port. P:692 Sherwood, Robert Emmet (American ture Timber, **T:252** playwrightl, S:356 Shin-pyu Shipping company Shetland, S:356 with pictures Burma (Way of life), B:657 Ship, S:385 with picture Arms picture on, A:589 Shingle-backed lizard, \$:359 with pic-Shipworm [molluse], S:387 Mollusc (The importance of molluscs),

ture

Bridge (History), B:568 Shofar Imusical instrumentl M:535 Hoyle, Edmond, H:335 Shipwreck, S:387 Rosh Ha-Shanah, R:402 Shipwreck | play by Stewart Short-wave radio Shogun [title], \$:391 Radio, R:76 Stewart, Douglas, So:323 Japan (Rise of the shoguns), J:56 Shire (political unit), S:388 Japanese print (The decline of print-Short waves, S:393 Marconi, Guglielmo (Short-wave ex-England (The Anglo-Saxon period), making), 1:65 periments), M:202 Tokyo (History), T:287 E:274 Microwave, M:443 Shola Shire horse Radio, Amateur (Licences), R:87 West Bengal (Local crafts), W:159 Horse (Heavy horses), H:289 with pic-Short, Lt. Gen. Walter C. [American Sholes, Christopher Latham [Amerimilitary commander! can inventor), \$:391 Shire Valley Pearl Harbor Naval Base, P:235 Invention (The late 1800's), 1:318 Malawi (Land), M:80 Shortening Typewriter (History), T:486 Shirley book by Charlotte Brontel Sholokhov, Mikhail [Russlan writer], Tailow, T:17 Brontë sisters (Their works), B:587 Shorthand, S:394 with diagrams 8/391 Shish kebab Shorthand machine, \$:396 Russian literature (The period of Soviet Food (Customs), F:297 Shorthand, S:394 realism), R:500 Turkey (Food and drink), T:458 Shortnose gar [fish] Sholom Aleichem (Yiddish writer), Shiva (custom) Gar. G:32 S:392 Judaism (Special occasions), J:156 Shostakovich, Dimitri (Russian com-Shona [people] Shiva [Hindu god], S:388 Rhodes, Cecil John (Gains Rhodesia), poserl, S:396 Hinduism (Divinities), H:209 with pic-Shot R:256 Ammunition (Cartridges), A:334 Zimbabwe (People), Z:494 ava picture on, 1:70 Shot tower, S:397 Shooting, S:392 with picture Shivaji (Hindu prince), S:388 Shotgun, S:397 Biathlon, B:269 Shot-put (athletics), S:397 with diagram Firearm, F:137 Flax (Growing and processing fibre Athletics (Throwing events), A:712 Hunting (Kinds of hunting), H:385 flax), F:222 Shot tower, 5:397 Olympic Games table on, 0:439 Shkolnik, Levi Shotgun, S:397 with diagram Eshkol, Levi, E:324 Skeet, S:459 Ammunition (Cartridges), A:334; (Shot-"Shooting of Dan McGrew, The" ibal-Shoal izoologyl gun cartridges) A:335 with dialad by Servicel Fish (How fish live together), F:174 aram Service, Robert William, S:272 Firearm (Types of firearms) picture on, with picture Shooting star Shock absorber, S:388 F:137 Astronomy (The nighttime sky), A:688 Shock [disorder], \$:388 Shotoku, Prince (Japanese ruler) Meteor, M:380 Bleeding (Effects of bleeding), B:386 Japan (History), J:55 Shopping Shoulder (anatomy), \$:398 with diagram Burns and scalds (First aid treatment), Department store, D:122 B:664 Skeleton (The appendicular skeleton), See also Consumerism First aid (Treat for shock), F:142 S:461 with diagram Shopping centre, S:392 Shoup, George Laird (American states-Toxic shock syndrome, T:320 Shopping centre, S:392 Shock treatment, S:388 manl, S:398 Shoran [navigation], S:393 Mental Illness (Electroconvulsive ther-Shove-halfpenny (game), S:398 Short bone apy), M:355 Shovel Bone (Structure of the bones), B:446 Construction equipment (Earth-moving Shock wave Short division (mathematics) machinery), Ch310 Aerodynamics (Shock waves and sonic Division (Short division), D:213 Shovel-nosed snake booms), A:72 Short-eared owl Animal picture on, A:391 Nuclear weapon (Blast wave), N:336 Owl (Kinds of owls), O:529 Sound (The speed of sound), So:49 Shoveler (birdl, S:398 Short History of Ireland, A [book by Show Boat [musical by Hammerstein] Shockley, William (American physicist) Beckettl Hammerstein, Oscar, II, H:32 Electricity (Electrons and electricity), Beckett, James Camlin, B:178 Kern, Jerome, K:236 E:172 Short hundredweight Musical comedy (Musical comedy ma-Nobel Prizes (Physics), N:227 Hundredweight, H:372 tures), M:739 with picture Transistor (History), T:341 Short Stories [book by Porter] Showjumping, S:398 with picture Shoe (footwear), S:389 with pictures Porter, Hal, P:696 Horse, H:300 with pictures Ballet (Costumes), B:53 Short Stories [dance by Tharp] Pony club branches, P:670 Clothing (The 1600's), Ci:103 with pic-Tharp, Twyla, T:187 Shrapnel (weapon), 5:399 ture Short story, S:393 Shrapnel, Henry Rubber (First uses), R:429 Australia, Literature of (Modern short Shrapnel, S:399 Wooden shoe, W:304 stories), A:832 Shrew lanimall, S:399 with picture Shoe [metal device] Fiction, F:69 Shrew tenrec Electric railways (Kinds of electric rail-Writing (Fiction), W:422 Tenrec, T:151 Ways), E:163 Short-tailed monitor Shrewsbury and Atcham [England], Elevated railway, E:209 Goanna (reptile), G:221 with picture

Short-toed eagle [bird]

A (book by Hoyle)

Short ton Ton, T:293

Eagle (Other kinds of eagle), E:5

Short Treatise on the Game of Whist,

5:400

Shrewsbury School, S:400

Shri Mangesh [temple]

Goa picture on, G:219

Shrewsbury, Battle of [1403], S:400

Shrike [bird], S:400 with picture

Shoebill (bird), S:391 with picture

Shoemaker, Bill [American jockey],

Shoes of the Fisherman, The book by

Bird picture on, B:326

West, Morris, W:155

West

Brick (Firing bricks), B:558

Child (Other special problems), C:407

Shyness

Introvert, J:299

toric times), P:760 Bird picture on, B:340 \$1 [metric system] Sickle cell anaemia See Metric system Magpie, M:61 Heredity (table), H:169 Shrimp, S:400 with picture Si [symbol] Crustacean, Ci:465 with picture Silicon, S:421 Sickle cell disease, S:410 Sickle cell disease (disorder), S:410 Shrine [religion], S:401 Si Klang Shropshire [England], S:401 with pic-See Xi Jiang with pictures Anaemia (Excessive destruction of red tures and map Siam Arms picture on, A:586 See Thailand blood cells), A:348 North Shropshire, N:263 Slamese cat Blood (Anaemia), B:400 Cell (Metabolic diseases), C:302 Shroud Cat (Short-haired breeds) picture on, Funeral customs, F:484 Eugenics, E:353 Eye (Diseases of the eye), E:441 Slamese fighting fish Sailing (Rigging), \$:23 Shroud of Turin, S:403 with picture Fightingfish, F:75 Haemoglobin, H:5 Shrove Tuesday, S:404 Heredity, H:169 with table Fish picture on, F:165; picture on Mardi Gras. M:202 F:177 Mutation, M:747 Siamese twins, S:405 with picture New Orleans (Annual events), N:120 Races, Human (Susceptibility to ge-Pancake Day, P:127 with picture Multiple birth (How multiple births netic diseases), R:48 Shrub [plant], S:404 occur), M:693 Sickle cell retinopathy Shruti Slanel 4 Cymru (S4C) Eye (Diseases of the retina), E:442 Hinduism (Beliefs of Hinduism), H:209 Welsh language (Development), Siddhartha Gautama Shtetl, A [book by Asch] W/149 See Buddha Asch, Sholem, A:619 Sibelius, Jean (Finnish composer), Siddons, Sarah Kemble English ac-Shuard, Amy [English soprano], S:404 S:405 with portrait tress], S:410 with portrait Shuffleboard [game], S:404 Finland (The arts), F:118 Kemble, K:214 Shugborough (England) Siberia, S:406 with pictures and map Shakespeare, William (The Age of Gar-Staffordshire (Places to visit), So:261 See also list of Related Articles rick), \$:326 with picture Shultz, George Pratt (American gov-Asia picture on, A:623 Siddur (religious book) ernment officiall, \$:404 Siberian arctic Judaism (Worship), J:156 Shuman process Arctic, A:543 Side-delivery rake Wire glass, W:279 Siberian elm Rake, R:126 Shuman, Frank [American inventor] Elm. E:218 Side lighting Wire glass, W:278 Siberian husky, \$:407 Photography, P:446 with picture Shunt [electricity] Eskimo dog, E:328 Ammeter, A:333 Siberian jay Oats (The oat plant), 0:377 Electric generator (Kinds of DC gener-Jay, 1:72 Side reaction ator). E:149 Siberian tiger Drug (Effect on the body), D:315 Shunt motor Tiger (The rare tiger), T:245 Side-striped jackal Electric motor (Kinds of electric mo-Siberian weasel Jackal, J:4 tors), E:154 Weasel, W:109 Sideburn Shush Sibyi [Roman fortune teller], S:408 Burnside, Ambrose Everett, B:664 See Susa Sic et Non (Yes and No) (book by Abe-Sidereal day Shush (Persian Empire) Day, D:51 Susa, So:446 Abelard, Peter, A:9 Earth (How the earth moves), E18 Shushan [Persian Empire] Sichuan Basin Sidereal time, S:410 Susa, So:446 Time (Measuring time by the stars), China, C:451 Shute, Nevil [British author], S:405 with Sichuan Province (China) T:256 portrait Chengdu, C:374 Sidereal noon Alice Springs, A:268 Time (Measuring time by the stars), Sicilian Vespers [Italian history] Shutter Sicilies, Kingdom of the Two, S:408 T-256 Carnera (How a carnera works), C:56 Sicilians (people) Sidereal time, 5:410 Film industry (The camera), F:91 with Sicily (The people), S:408 Earth (How the earth moves), E18 diagrams; (The projector) F:93 Sicilles, Kingdom of the Two, S:408 Star (Measuring time), So:283 with diagram Time (Measuring time by the stars), Garibaldi, Giuseppe, G:44 Photography (Capturing light rays), Italy (The French Revolution and Napo-T:256 P:442 leon), 1:468 Sidereal year Shutter release button Sicily, S:408 with picture Year, Y:442 Photography (Making a print), P:443 See also list of Related Articles Siderite Iron and steel (Kinds of iron ore), 1:388 Shutter speed Mafia, M:39 Photography (Controlling exposure), World War II (The invasion of Italy), Siderophile P:447 with picture W:392 Geochemistry, G:86 Shuttle Sick building syndrome Sidestroke Textile (Woven fabrics), T:171; (The age Environmental pollution (Indoor air Swimming, So:485 of modern textiles) T:176 pollution), E:304 Sidewinder (snake) Weaving (Weaving on a loom), W:125 Sick headache Rattlesnake, R:144 with picture Snake (Sidewinding), **S:510** with pic-Shuttle kiln Headache (Migraine), H:93

Sickert, Walter Richard (German-born

Prehistoric people (The end of prehis-

artist], S:410

Sickle [tool]

Sidney, Algernon [English history]

Rye House Plot, R:509 Sidney, Sir Philip (English author), SA11

ters), H:141 Sido |book by Colettel with diagram Rifle (The parts of a rifle), R:274 Silage Colette, Cl:162 Alfalfa (As livestock feed), A:246 Sidon lancient cityl, S:411 Sight reduction table Dairying (Feeding), D:7 Phoenicia (Way of life), P:428 Navigation (Celestial navigation), N:54 Feed, F:48 Sight vane Grass (Pasture and fodder grasses), See Sudden infant death syndrome Navigation (Piloting), N:52 Siegbahn, Kal (Swedish physicist) C:302 Sight words Maize (Livestock feed), M:71 Nobel Prizes (Physics), N:228 Reading, R:154 Oats (Harvesting oats), 0:377 Sigismund (Holy Roman emperor), Siegbahn, Karl Manne Georg, S:411 Silo. S:427 Slegbahn, Karl Manne Georg [Swed-S:414 Silang, Diego (Filipino patriot), S:419 Sigmoid colon [anatomy] ish physicist, S:411 Silappadhikaram [Tamil epic] Colon (anatomy), Ci:175 Nobel Prizes (Physics), N:226 India, Literature of (Early Dravidian Ilt-Intestine (The large intestine), 1:298 Siege Perilous erature), 1:126 with diagram Round Table (Origin), R:411 Silas Marner book by Elioti Sign language, S:414 with diagrams Slegfried (legendary figure), \$:411 Eliot, George, E:210 Deafness (Special aids and communi-Siegfried Line [World War i], S:411 cation techniques), D:57 Haig, Earl, H:9 Malaysia (Sports and pastimes), M:88 Indian, American (Other communica-Hindenburg, Paul von, H:208 with picture tion), £149; picture on £156 World War I (Allied failures), W:371 Silbury Hill [England], S:420 Sign of aggregation World War II (The Phony War), W:383 Silchester [England], S:420 Algebra (Symbols in algebra), A:255 Siegfried lopera by Wagner Silencer, S:420 with diagram Sign of Four, The Inovel by Doyle Opera (Richard Wagner), 0:465 with Silent assumption Doyle, Sir Arthur Conan, D:277 pictures; (Ring of the Nibelung, Fallacy, F:15 Signal of Peace (sculpture by Dailin) The | 0:472 Silent South, The [book by Cable] Dallin, Cyrus Edwin, D:11 Wagner, Richard (Later career), W:3 Cable, George Washington, C:7 Signal processor Siemens, Charles William (German-Silent Woman, The [play by Jonson] Radar, R:61 born scientist lonson, Ben, J:140 Signal Iron and steel (The birth of modern Silesia (region, Czech Republic/Poland), Electronics (Terms used in electronsteelmaking), 1:401 S:420 ics), E:185 Siemens, Friedrich [German-born sci-Czech Republic, Ci:516 Signalling, S:415 with pictures entist Maria Theresa, M:204 See also list of Related Articles Iron and steel (The birth of modern Silica iminerall, S:420 Railway, Model (Other systems and steelmaking), 1:401 Flint, F:228 equipment), R:115 Siemens, Sir William [German inven-Oxide, 0:536 Railway (Traffic control), R:103 with di-Plant (How plants protect themselves), torl agram Siemens, S:411 P:568 Signed number Siemens, Werner von (German inven-Rock (Chemical sediments), R:308 Algebra (Positive and negative num-Silica gel, S:420 bers), A:254 Siemens, S:411 Water glass, W:86 Signet ring Siena (Italy), S:411 Silica glass Ring, R:279 Glass (Recipes for making glass), G:191 Sienkiewicz, Henryk [Polish author], Signing the Marriage Contract [paint-Silica sand ing by Hogarthl Poland (Arts), P:627 Sand, 5:69 Hogarth, William picture on, H:242 Sierra Leone, S:412 with pictures and Silicate (mineral), S:420 Signing the Treaty of Waitangi | paint-Ceramics (Properties of ceramics), ing by Kingl Flag picture on, F:201 C:325 New Zealand, History of picture on, Diopside, D:183 Freetown, F:439 No.169 Hornblende, H:281 Sierra Madre (mountain ranges), \$:414 Signs of the Zodiac Mercury (Surface and atmosphere), Sierra Madre Occidental See Zodiac Mexico, M:410 M:362 Sigurd Slembe (work by Bjørnson) Sierra Madre Oriental Silica, S:420 Bjørnson, Bjørnstjerne, B:373 Mexico, M:411 Silicomanganese Sigurd the Dragon Slayer |Teutonic Manganese (Uses), M:152 Sierra Nevada mythologyl, S:416 Silicon (element), S:421 Spain (The Meseta), S:174 with picture Mythology (Teutonic heroes), M:761 Earth (The earth's crust), E:19 Sleve of Eratosthenes, S:414 Sikhism [religion], 5:416 with pictures Electricity (Solar cells), E:168 Sleve tube Amritsar, A:344 Electronics (Solid-state components), Bark (Inner bark), B:110 India, History of (The Gandhi premier-Root (The core), R:393 ship), I:119 Integrated circuit (Structure), k276 Stem (Herbaceous stems), So:315 India (Other religions), 1:65 Semiconductor, S:246 with diagrams Sleyès, Emmanuel Joseph (French po-Ranjit Singh, R:136 Silica, S:420 litical leader), S:414 Sikkim [Indian state], S:417 with pictures Sifaka Silicone, S:421 and map Lemur, L:167 Silicon bronze See also India Bronze (Silicon and aluminium Sikorsky, Igor Ivanovich (Russian in-Sigatoka disease bronze), B:588 Banana (How bananas grow), B:71 ventori, S:419 with picture Sight Silicon carbide Aeroplane (Other pioneer planes and Carborundum, C:190 See Vision fliers), A:80 Gem (Cutting and polishing), G:71 Sight (gun) Helicopter (The first practical helicop-

Handgun (Parts of a handgun), H:42

Soil (Minerals), So:20

Technology (The depletion of natural

writing), H:225 resources), T:86 with picture Grinding and polishing (Grinding Simcoe, John Graves (British military Siltstone tools), G:378 Rock (Clastic sediments), R:308 leaderl, S:429 Silicon chip Silty clay Toronto (History), T:302 Integrated circuit (Structure), 1:276 Simenon, Georges [Belgian-born au-Soil (Texture), So:21 Silicon dioxide Silurian Period thor], S:429 See Silica Australia (Paleozoic Era), A:767 Detective story (The pattern), D:136 Silicone [synthetic], S:421 Earth (The Palaeozoic Era), E:27; table Simhat Torah [festival], S:430 Silicone rubber on E:30 Bible (The Bible in worship), B:278 Rubber, R:437 Silver bass Sukkot, So:397 Silicosis (disease), S:422 Bass (Freshwater bass), B:141 Similarity Dust (Importance to human beings), Silver lelementl, S:427 with pictures Geometry, G:95 D:357 Silk, S:422 with pictures See also list of Related Articles Triangle, T:398 Clothing (Clothing materials), Ci:106 Alloy (Costly and ornamental alloys), Simile (grammar), S:430 Fibre (Natural fibre), F:67 Simmental Moth (The importance of moths), Metal (Metals through the ages), See Cattle, picture, C:273 M:641 Simmering Mulberry, M:689 Mineral picture on, M:484 Cooking, Cl:335 Pasteur, Louis (His work in industry), Teeth (Filling a cavity), T:94 Simon Peter Sliver birch See Peter, Saint Spider (Spinnerets), So:220; (The spi-Birch, B:314 Simon, Claude (French author) der's silk) So:220 with pictures Silver bromide French literature (French drama of the Textile (Natural fibres), T:169 (The age Bromide, B:585 mid-1900's), F:450 of modern textiles) T:176 Bromine, B:585 Nobel Prizes (Literature), N:233 Thread, T:229 Silver eel Simon, Nell [American playwright], West Bengal (Local crafts), W:159 with Eel (Life cycle), E:95 pictures Silver filigree (manufacturing) Simon, Paul (American singer), \$:430 Slik [botany] Orissa (Local crafts), 0:499 Simon, Saint, S:430 Simone Martini [Italian painter], S:430 Maize (How the plant reproduces), Silver fox M:72 with picture Fox (Kinds of foxes), F:379 Simonstown (South Africal, S:431 Slik paper Silver hatchet fish Simony Stamp collecting (Paper), So:271 Fish picture on, F:165 Gregory VII, Saint, G:365 Silk Road Silver-leafed ironbark [tree] Nicholas II (pope), N:198 Jammu and Kashmir (History), J:27 Pope (The early Middle Ages), P:676 Eucalypts picture on, E:350 Uzbekistan (History), U:294 Roman Catholic Church (Cluntac re-Silver minnow Silk-screen printing, S:425 with dia-Minnow, M:499 form), R:340 grams Silver nitrate (chemical), S:429 Simple dislocation [injury] Gujarat picture on, G:421 Blindness (Ophthalmia neonatorum). Dislocation, D:199 Printing (Screen process printing), B-3/88 Simple eye Crustacean (Senses), Ci:466 Drug (Minerals), D:316 Eye picture on, E:443; (Eyes of animals) Warhol, Andy, W:39 Silver plate Silk Stockings [music by Porter] Brass, B:524 E:444 Porter, Cole, P:696 Nickel silver, N:200 Insect (Sight), I:252 Silko, Leslie Marmon [American writer] Silver skin Simple fracture American literature (Fiction and other Coffee (Preparation for market), Ci:152 Fracture, F:390 with diagram prose), A:320 Silver squeteaque Simple fruit Silkworm Weakfish, W:108 Fruit, F:476 with picture Animal (Courtship behaviour), A:405 Silver State Simple interest Mulberry, M:689 See Nevada Interest, 1:278 Silk, S:422 Silver Swan, The Imusic by Gibbons Simple leaf West Bengal picture on, W:158 Leaf (The blade), L:128 with pictures Gibbons, Orlando, G:153 Plant (Leaves), P:554 with pictures Silky oak [tree], S:426 Silver Tassie, The play by O'Caseyl Sliky terrier, S:426 with picture O'Casey, Sean, O:383 Simple motor act Silliman, Benjamin [American scien-Silverado Squatters, The book by Ste-Habit (Kinds of habit), H:2 tistl, S:426 vensonl Simple random sample Sillmanite, S:426 Statistics (Sampling), 50:304 Stevenson, Robert Louis (Marriage), Simplon Pass and Tunnel Switzer Sillitoe, Alan (English author), \$:426 So:321 Sills, Beverly [American singer], S:426 Silvered glass land], 5:431 Switzerland (Transportation), So:499 Silmarillion, The [book by Tolkien] Glass (Types of art glass), G:198 Simpson, Bobby [Australian cricketer], Tolkien, J. R. R., T:288 Silvereye (bird), S:429 with picture Silo lagriculture], \$:426 Silverfish [insect], S:429 Simpson, Sir George Igovernor of Silo (warfare) Insect picture on, 1:255; (table) 1:261 North American territories), 5:431 Guided missile (Launching equip-Silvery blue Hudson's Bay Company (Growth and ment), G:407 with picture Butterfly picture on, B:682 Submarine (Ballistic missile sub-Silviculture problems), H:341 marinel, So:370 Forestry (Managing timber resources), See also Trading post Simpson, Sir James Young Scottish Silt, S:427 F:356; (Diseases and pests) F:359

Sima Qian [Chinese historian]

History (The development of historical

doctori, S:431

Chloroform, C:475

M:632

Sinat Pentinsula, S:432

Egypt, E:112 with picture

Black, Davidson, B:374

Peking man, P:246

with portrait

Sine (mathematics)

Trigonometry, T:401

See Tendon, T:139

Singapore Airlines

Free port, F:430

0:455

Singapore

Airline (table), A:208

Sindht

Sinai imountain, Sinai Peninsulal, S:432 Moses (The covenant with God), Ten Commandments, T:138 Israel (The Sinai invasion), 1:439 (Recent developments) 1:440 Middle East (Continuing conflict), M:456; (Attempt at peace) M:456 Sinanthropus pekinensis Sinatra, Frank [American singer], S:432 Film industry (Best performance by an actor in a supporting role), F:97 Kelly, Gene picture on, K:212 Sinclair, Sir Clive Marles (British inventor), S:432 with portrait Sinclair, Upton [American writer], S:432 American literature (Naturalists), A:315 india, Languages of (Modern Indo-European languages), I:123 Sinfonia Concertante Imusic by Wai-Walton, Sir William, W:29 Sing Sing [state prison, U.S.A.], S:432 Open University (Other institutions),

Europe (Toward European unity), E:391 Singapore [city] Single-lens reflex camera Singapore, S:439 with pictures and Camera, C:57 with picture Photography, P:449 with picture Singapore (country), S:433 with pictures Single-parent family and maps Family (Other family patterns), F:21 See also list of Related Articles Single-phase alloy Asia (Way of life in Southeast Asia), Alloy (Characteristics of alloys), A:278 A:636 Single-phase generator lelectricity Association of Southeast Asian Na-Electric generator (Alternating-current tions (ASEAN), A:673 generators), E:148 Aviation (Aircraft nationality marks), Single-pole, double-throw switch A:881 Electric switch, E:164 Education, E:87 Single-rotor hellcopter Flag picture on, F:206 Helicopter, H:138 Government, G:275 Single-shot pistol Lee Kuan Yew, L:151 Handgun, H:43 Malaysia, M:83 Singles skating Malaysia, History of (The growth of ice skating (Figure skating), 1:15 with British power), M:101 pictures Scouting, S:181 Roller skating (Artistic skating), R:334 Telephone, T:109 Singleton (England) Television, T:126 Sussex (Places to visit), So:449 World War II (The war in Asia and the Singosari Pacific), W:396 Indonesia (During the 1000's), I:194 Singapore Telecom International Singsing (dance), S:454 Telephone (Singapore), T:109 Sing-Song [work by Rossetti] Singer Rossetti, Christina Georgina, R:404 Opera, 0:458 Singer, Isaac Bashevis (Polish-born au-Singspiel Opera (table), 0:457 thor], S:452 Singular (grammar) Nobel Prizes (Literature), N:233 Number, N:343 Singer, Isaac Merrit (American inven-Sinhalese (people) torl. S:453 Maldives (People), M:111 Clothing (The 1800's), Cl:104 Sri Lanka (People), So:256 (History) Sewing machine (History), S:288 So:258 Singer, Jerome E. [American psycholo-Sinister side gist Heraldry (Expansion), H:160 Emotion (Modern theories about emo-Sinister Street (book by Mackenzie) tion), E:230 Mackenzle, Sir Compton, M:19 Singh, Bhai Vir [indian writer] Sinker India, Literature of (The birth of nation-Fishing (Fishing equipment), F:183 alism), 1:128 Sinkhole pond Singh, Shivprasad Indian writeri Great Basin, G:314 India, Literature of (Contemporary Pond (Kinds of ponds), P:667 trends), 1:129 Sinklang Singh, Gobind (Sikh guru), S:453 See Xinliang Singh, Vishwanath Pratap (Indian po-Sinn Féin Ipolitical groupi, \$1454 litical leaderl, S:453 with portrait Ireland, History of, 1:376 *Singin' in the Rain* Imusical) Sinner's Holiday [film] Dancing (Dancing since 1900), D:28 Cagney, James, C:15 Kelly, Gene, K:212 Sinnott, Michael Singing, S:453 See Sennett, Mack See also list of Related Articles Sino-japanese wars Singing Detective, The play by Potteri See Chinese-Japanese wars Potter, Dennis, P:721 Sinoatrial node Single-action revolver Heart (Regulating the heart rate), H:103 Handgun, H:42 Muscle (Cardiac muscle), M:715 Single-action semiautomatic pistol Sins of Youth book by Lilienblum Hebrew language and literature (Mod-Handgun, H:42 ern Hebrew literature), H:130 Single crochet Crocheting, Ci:447 Sintering, S:455 Single-cross hybrid Lead (How lead is obtained), L:125 Hybrid (Producing hybrids), H:393 Metallurgy, M:376 Maize (Development of hybrids), M:75 Powder metallurgy, P:730 Single element set Sinus, S:455 with diagram Set theory, S:275 Blood (Formation of new blood com-Single European Act ponents), B:398 Europe (Recent developments), E:392 Bone (Structure of the bones), B:446 Single European Act [1987]

pendence) I:181

Siskin (bird), S:456

Clam. Ci:50 Sisley, Alfred (French-born artist), S:457 Poulenc, Francis, P:726 Sixes and Sevens [book by Henry] Impressionism (French impression-Hayfever (Symptoms), H:89 ism), l:46; picture on l:46 Henry, O., H:154 Nose, N:303 Sixth form colleges Sisowath Sirik Matak (Cambodian po-Sinusitis United Kingdom, Educational systems litical leader] Hay fever (Symptoms), H:89 of the (Vocational education), U.96 Cambodia (History), C:46 Sinusoid (anatomy) Sister Carrie [book by Dreiser] Sixtus IV [pope], S:458 Liver (Structure of the liver), L:333 with American literature (Naturalists), A:315 Pope (Renaissance and Reformation), diagram "Sister Helen" [poem by Rossetti] P5677 Spleen, So:233 Rossetti, Dante Gabriel, R:404 Sixtus V [pope], S:459 Sloux Indians Sized ice Indian, American (Indians of the Sisters of Charity Ireligious group], Plains), I:154 with pictures; (Native S:457 Ice (How ice is manufactured), 1:5 Americans today) 1:166; pictures Sisters of Mercy (religious group), Sizing oni:142: 1:146 S:457 Cotton (Spinning), Ci:387 Sizwe Banzi is Dead [play by Fugard] Indian wars (The Sloux wars), £176 Sisters of St. Joseph Siphon (physics), S:455 with diagram MacKillop, Mary, M:20 Fugard, Athol, F:480 Siphon (zoology) Sistine Chapel, S:457 Slöwall, Mai [Swedish writer] Clam. Ci:50 David picture on, D:44 Sweden (Literature), So:467 Jeremiah, Book of picture on, J:85 Mollusc (Bivaives), M:535 Skagerrak (North Seal, S:459 Octopus, 0:409 with diagram Painting (Michelangelo), P:59 with pic-Skald (Icelandic literature), 5:439 Siphonaptera Minstrel, M:502 Sistine Madonna [painting by Raphael] Insect picture on, 1:244; (table) 1:262 Vikings (Cultural life and recreation), Siphuncle Madonna and Child (Painters of the C/OUG Nautilus, N:51 Madonna), M:34 Skandagupta lemperor of Indial Sir Charles Grandison (book by Rich-Sisulu, Albertina (South African politi-Gupta dynasty (Rise and fall of the dyardsonl cian] nasty), G:430 Richardson, Samuel, R:269 Sisulu, S:457 Skandar Lodi (sultan of India) Sir Gawain and the Green Knight Sisulu, Walter (South African politician) Agra (History), A:160 [poem] Sisulu, \$:457 Skáne (region, Sweden) Poetry (Medieval poetry), P:615 SiSwati llanguagel Scandinavia, S:120 Sweden (The Swedish Lowland), Round Table (The knights of the Swaziland, So:458 Round Table), R:411 Sisyphus (Greek mythology), S:457 So:469 Sir Isaac Newton [sculpture by Dailin] Sitar (musical instrument), S:457 with Skate [fish], S:459 Dallin, Cyrus Edwin, D:11 picture Skate (submarine) Sir John Hawkwood (painting by Uc-Inertial guidance (History), 1:227 Asia (The arts), A:635 cellol India, Dance and music of (Musical in-Skateboard, S:459 with picture Uccello, Paolo, U:2 struments), I:94 picture on I:95 Skating [sport] Siren (warning), S:455 Music (Plucked stringed instruments), See Ice skating; Roller skating Siren Land inovel by Douglas] M:728 Skeet (sport), S:459 Douglas, Norman, D:273 Shankar, Ravi, \$:330 with picture Skeeter liceboat Sirenia, S:456 Iceboating (History), I:19 Site-specific installation [art] Sirens [Greek mythology], S:456 Sculpture (Environmental sculpture), Skein dyeing Dye (Dyeing textile materials), D:362 Capri, C:148 Odyssey (Odysseus describes his wan-Wool (Making fabric), W:312 Sittang River derings), O:412; picture on O:411 Burma (The Central Belt), B:659 Skeletal muscle Sirex wasp, S:456 Sitting Buil [American Indian], \$:458 Human body, H:351 Sirius [astronomy], S:456 Muscle, M:713 pictures on M:713, with portrait Calendar (The Egyptians), C:35 Indian wars (The Sioux wars), 1:176 M:714, M:715 Star (table), So:284 Muscular dystrophy, M:716 Sitwell, Dame Edith (English poet), Sirius [ship], S:456 S:458 with portrait Tongue, T:295 with diagram Australia, History of (The first fleets), Siva Skeletal system Human body, H:351; (Trans on three A:800; (The first settlement) See Shiva A:800 Sivan [month] nsional picture) H:353 First Fleet, F:148 Calendar (The Hebrew Calendar), C:34 Skeleton, S:460 with diagrams Phillip, Arthur (Early life), P:416; (The See also list of Related Articles Siwalik Hills colony's early years) P:417 Jammu and Kashmir (Land features), Bird, B:351 with picture Cat (Body size and structure), C:244 Ship (Oceangoing steamships), S:372 1:26 with picture Six-Day War with diagram Dog (Body structure), D:223; diagram Sirocco (weather), S:456 Egypt (Progress and conflict), E:118 Algeria (The Sahara), A:264 Israel, 1:439 on D:224 Sicily (Land and climate), S:408 Six Dynasties [Chinese history] Fish, F:168 with diagram Sisal (plant), S:456 Sculpture (China), S:200 Frog diagram on, F:465 Fibre (Natural fibres), F:67 Giraffe diagram on, G:165 Six-rowed barley Rope (Natural-fibre rope), R:394 Gorilla diagram on, G:260 Barley, B:112 Growth (Skeletal age), G:386 Sisarang Vong lking of Louang-Six-spotted green tiger beetle phrabangl Beetle picture on, B:199 Hip, H:217 Indochina (World War II), I:181; (Inde-Horse picture on, H:293 Six, Les [music] Human body (The skeletal system),

Honegger, Arthur, H:264

Milhaud, Darius, M-464

H:351 (Trans on three nsional pic-

ture) H:353 Macedonia, M:8; picture on M:10 Insect (The bodies of insects), I:248 Olympic Games (The Winter Games), Skryabin, Alexander O:435; (table) O:437 See Scriabin, Alexander joint, J:136 Mammal, M:127 with diagrams Skua (bird), S:474 Safety, S:12 Marfan syndrome, M:203 Bird picture on, B:336 Scotland picture on, S:162 Marsupial (Characteristics of marsupi-Skimmer (bird), S:468 Skuld (Scandinavian mythology) Skin lanatomyl, S:468 with diagrams Norns, N:245 als), M:227 Skull (anatomy), S:474 with diagram Prehistoric animal (Early forms of ani-Cell picture on, C:293; diagram on Brain (How the brain is protected), mal life), P:744 C:294 Disease (Barriers), D:195 with diagram B:512 Prehistoric people (Types of Australopithecines), P:751 with pic-Head, H:92 Human body, H:351 with picture Keratin, K:236 Mammal (The axial skeleton), M:127 ture; (Homo erectus) P:752; (The Mastold, M:251 Leprosy, L:183 with pictures single origin theory) P:757 Prehistoric people (Prehuman ances-Mammal (Skin and hair), M:127 Rat diagram on, R:141 tors), P:751; (The first human be-Scar. S:122 Rattlesnake picture on, R:145 ings) P:751; (Early Homo saplens) Skin (zoology) Reptile, R:232 Amphibian, A:340 P:753 Whale, W:208 Skull Beneath the Skin, The book by Elephant (Kinds of elephants), E:203; Skeleton (sport) James] (Skin and hair) E:204 Bobsledding, B:416 James, P. D., J:23 Frog, F:464 Skeleton construction Skunk lanimall, S:475 with pictures Hair, H:10 with diagram Building construction (Types of con-Animal (Chemical defences), A:404 Parchment, P:172 struction), B:628 Fur (table), F:488 Reptile, R:232 Skelton, John (English satirist), S:461 Protective coloration picture on, P:813 Taxidermy, T:71 with pictures Skene Itheatrel Skunk cabbage, S:476 Drama (Greek drama), D:286 Skin cancer Arum, A:615 Cancer, C:119 Skerrett book by O'Flaherty Sky, S:476 Skin (Tumours), S:470 O'Flaherty, Liam, 0:417 Astronomy (Observing the sky), A:686 Skin colour Sketch Book of Geoffrey Crayon, Sky wave Races, Human (Alternatives to racial Gent, The (book by Irving) Radio (Kinds of broadcast waves), R:78 classification), R:45 with pictures American literature (Literature of a Skydiving, S:476 with picture Skin, S:469 with picture young nation), A:311 Parachute (Use of parachutes), P:159 Skin disease Irving, Washington (Years in Europe), Skye and Lochalsh [Scotland], 5:476 Dermatology, D:128 1:409 with picture Erysipelas, E:323 Rlp Van Winkle, R:287 Skye (Island, Scotland) Lupus, L:417 Sketch for a Historical Picture ... of Hebrides, H:131 Neurofibromatosis, N:102 the Human Mind (book by Condor-Highland Region (Places to visit), H:199 Skin disorders, S:470 Skye terrier, S:476 Skin diving, S:471 with pictures Age of Reason (Influence of the Age of Dog picture on, D:232 Diving, Underwater (Ambient diving), Reason), A:157 Skylacking Condorcet, Marquis de, Ci:275 Airport (Airport security), A:215 Skin for Skin [book by Powys] Sketches of Eighteenth Century Hilacking, H:201 Powys, Llewelyn, P:733 America book by Crèvecoeur Skylab (space station) Skin grafting, S:473 Crèvecoeur, Michel-Guillaume Jean Astronomy (Space exploration), A:699 Hypnotism (Uses of hypnotism), H:414 Space exploration, So:128, So:155 de, Ci:423 Plastic surgery (Methods of plastic sur-Sketching (art) with diagram gery), P:576 Sun (Modern solar study), So:421 Drawing, D:303 Skin (Burns), S:470 Skew line (geometry), S:461 Skylark Tissue transplant (Types of trans-Skhul [[srae]] Bird picture on, B:322 plants), T:263 Prehistoric people (The single origin Lark, L:65 Skin of Our Teeth, The lwork by theory), P:757; (Cultural develop-Skyr [food] Wilder] Iceland (Way of life), I:21 ment of modern human beings) Wilder, Thornton Niven, W:250 P:758 Skyrocket Ski Fireworks (How fireworks work), F:140 Skin test Allergy (Diagnosis and treatment), Skyscraper, S:477 with pictures Skiing (Ski equipment and clothing), See also list of Related Articles S:463 Tuberculosis (Diagnosis of tuberculo-Building construction (Constructing a Water-skiing, W:91

[§]ki jumping

Skiing, **S:463**

Ski troops

Skid [aviation]

sis), T:434 skyscraper), B:628; (Types of con-Skink, \$:474 with picture struction) B:628 Norway picture on, N:295 Lizard (How lizards move), L:340 Skyways [book by Mitchell] Olympic Games table on, 0:437 Skinner, B. F. [American psychologist], Mitchell, Billy, M:516 5:474 Behaviour (Behaviourism), B:202 Building construction (Beams, girders, Russo-Finnish wars picture on, R:502 Skinning and columns), B:627 Fur, F:490 Pottery (The slab method), P:724 with Aeroplane (Proper use of the controls), Skipper (entomology) picture Butterfly, B:681 with pictures Skiing [sport], S:462 with pictures Skipping [game] Toad (Kinds of toads), T:268 See also list of Related Articles Game picture on, G:24 Slag [by-product], S:477 apan (Recreation), J:42 with picture Skopje Norway (Recreation), N:295 with pic-

Abolition movement, A:13

American Civil War (The conflict over

Rousseau, Henri, R:413 slaveryl, A:305 Copper (Smelting), Ci:343 Sleeping sickness [disease], S:485 Iron and steel (Raw materials), 1:390; Antiqua and Barbuda (History), A:461 Bruce, Sir David, B:596 (Running a blast furnace) 1:390 Bahamas (History), B:30 Laveran, Charles Louis Alphonse, with diagram Barbados (History), B:103 L:108 Brown, John, B:592 Lead (How lead is obtained), L:125 Trypanosome, T:429 Metallurgy (Smelting), M:376 Cameroon (History), C:60 Dominica (History), D:257 Tsetse fly, T:430 Smelting, S:497 Sleeplessness Douglass, Frederick, D:273 Slaked lime Fugitive slave laws, F:480 Insomnia, I:265 Oxide, 0:536 Sleepwalking, S:485 Ku Klux Klan, K:337 Slalom Sleet, S:485 Skiing (Alpine competitions), S:467 Popular sovereignty, P:684 Snow (How snow forms), \$:522 Trinidad and Tobago (History), T:407 Slam Bridge, 8:567 United States, History of the (The irre-Weather (Moisture), W:112 pressible conflict), U:250 Sleeve Pekingese Whist, W:230 Pekingese, P:247 West Indies (Slavery and rebellion), Slander, S:478 W:171 Sleight of hand Slaney [Ireland], 5:478 Magician (Kinds of magic), M:48 Wilberforce, William, W:248 Slang, S:478 Siender rush Slapstick [drama] "Slavery in Massachusetts" [essay by Rush. R:460 Literature (Forms of Literature), L:312 Thoreau Thoreau, Henry David, T:226 Slender thistle Slapstick Slavic countries, S:483 Thistle, T:222 Humour, H:371 Slessor, Kenneth (Australian writer) Slash-and-burn agriculture Slavic language Agriculture (Shifting cultivation), A:165 Czechs, Ci:526 Australia, Literature of (Modern short Aztec (Agriculture), A:901 Russian language, R:494 stories), A:832 Slessor, Kenneth (Australian poet), Indian, American (Farming), 1:140 Russian literature (Religious literature), Indonesia (Agriculture), 1:191 S-ABI Slessor, Mary [Scottish missionary], Tropical rainforest (People and the World, History of the (The Byzantine rainforests), T:416 Empire), W:344 S:486 Slashing machine Siavonic Dances (music by Dvořák) Slide-action rifle Cotton (Spinning), Cl:387 with picture Dvořák, Antonín, D:359 Rifle, R:274 Slate (rock), S:479 Siavs (people), S:483 Slide (microscope) Rock (Metamorphic rock), R:309 with Alphabet (The Cyrillic alphabet), A:284 Microtomy, M:443 picture Bulgaria (Population and ancestry), Slide (photography) Slate-coloured junco B:634 Photography, P:457 Junco, J:165 Projection screen, P:798 Czech Republic (Early days), Ci:520 Slater, Samuel (British-born American Slide calliper [instrument] Holocaust, H:249 businessmanl, S:480 Macedonia (People), Mr9 Calliper, C:42 Industrial Revolution (Spread of the In-Russia (Early days), R:484 Slide valve Dam (How dams are built), D:14 dustrial Revolution), 1:217 Yugoslavia, Y:477 Slatyheaded parakeet Slayton, Donald K. American astro-Sliding friction Friction (Kinds of friction), F:459 Parakeet picture on, P:168 nautl Slaughter cattle Space exploration pictures on, So:147, Sliding vane pump Ranching (Life on a cattle ranch), R:133 So:154 Pump, P:854 Slieve Bloom (mountains, Ireland), Slaughterhouse-Five (book by Von-Sledge, S:483 negut Eskimo dog, E:328 S-486 Sileve Donard Imountain, Northern Ire-American literature (Fiction and other Invention (Prehistoric times), 1:314 prose), A:320 Snowmobile, S:524 with picture land), 5:486 Slaughtering Slieve Donard (mountain) Tobogganing, T:272 with picture Northern Ireland (Surface features), Meat processing, M:299 Transportation (Prehistoric times). Slavan, Frank [Australian boxer] T:350 with picture N:273 with map Boxing (Boxing in Australia and New Sleep, S:484 Sileve League [Donegal] Zealand), B:498 Donegal picture on, D:265 See also list of Related Articles Sligo (county, Ireland), S:486 with pic-Slave, The [play by Baraka] Baby (Sleeping conditions), B:9 Baraka, Amiri, B:101 Fish (How fish rest), F:173 ture and map Slave Arms picture on, A:588 Health (Rest and sleep), H:95 Colonial life in America (Colonial soci-Sligo (town, Ireland), S:487 Space exploration, So:137 with picture Slim, William British army comety) Sleep paralysis Slavery, S:480 Narcolepsy, N:25 manderl, S:487 Slimbridge Wildfowl Trust [England] Slave Lake, Great Sleeper Gloucestershire (Places to visit), G:213 See Great Slave Lake Railway (Tracks), R:101 Slime mould [fungus], S:487 Slave maker Sleeping bag Sling [weapon], S:487 with picture Ant, A:433 Camping, C:65 Slave Ship (play by Barakal Sling psychrometer Sleeping Beauty [ballet] Hygrometer (The psychrometer), Baraka, Amiri, B:101 Dancing (The rise of romanticism), Slave station H:409 with picture Navigation (Loran), N:54 Sleeping Gypsy, The [painting by Rous-Slip [clay] Pottery (The coll method), P:723 Slavery, S:480 with pictures and maps seaul

Painting (Postimpressionism), P:77

with picture

Gardening (Obtaining new plants from

Slip [plant]

Smith, James (Australian businessman),

Smith, James [South African scientist],

Smith, John (British political leader),

5:400

S:499

Smeaton, John (British engineer), S:495 5:49% cuttings), G:42 Slow pitch Cement and concrete (History), C:313 Slip casting Ceramics (Making ceramics), C:326 Softball (Types of softball). So:18 Engineering (History), E:259 Pottery (The mould method), P:724 Slow-release fertilizer Smell, S:496 with diagrams Fertilizer (Production and sale), F:60 Animal, A:400 with picture Slip ring Bird (Smell, taste, and touch), B:352 Electric generator (How generators Slowworm Blindworm, B:390 with picture Dog (Senses), D:224 work), E:147 with diagram (Alter-Fish (Smell and taste), F:171 Slug (animal), S:495 with picture nating current generators) E:148 Insect, 1:253 with picture Slug [printing] Slipe wool Mammal, M:129 Wool (Types of wool), W:310 Linotype (How the linotype works), Nose, N:303 1:296 Slipped disc lanatomy Reptile (Sense organs), R:231 Printing (Typesetting), P:781 Back, B:17 Senses, S:255 Shuice Slipper bath Taste, T:65 Bath (History), B:151 Coffee (Preparation for market), Ci:152 Smelling salts, S:496 Slurm Slipperwort (plant), S:488 with picture Smelt [fish], S:496 with picture Housing, H:328 Slippery elm [tree] Smelting, 5:497 Juvenile delinguency (What causes de-Elm picture on, E:218 Copper, Ci:343 with diagram linquency?), J:176 Slipping Gold diagram on, G:234 Slurry Boxing picture on, B:497 Hittites (Way of life), H:232 Construction equipment (Pumping ma-Slit-faced bat Industrial Revolution (Early ironmakchines), Cl:310 Bat (Kinds of bats), B:148 ing), I:213 Siurry explosive Sliver [textiles] Metallurgy, M:376 Dynamite (History), D:365 Cotton (Cleaning and blending), Ci:387 Tin (Refining tin), T:259 Sm [symbol] Spinning (The mule), So:230 Smetana, Bedřich (Czech composer), Samarlum, S:61 Textile (Making the yarn), T:172 S:497 Small-arms ammunition Wool (Making yarn), W:311 Czech Republic (Arts), Ci:518 Ammunition, A:334 with pictures illivovica (drink) Smilax |plant|, S:497 with picture Small arms Macedonia (People), M:8 Smiles, Samuel (British reformer), \$:497 Firearm, F:137 Sloan, John (American artist) Smilodon Small Back Room, The book by Bai-Ashcan School, A:620 Prehistoric animal picture on, P:747 chin Sloane, Sir Hans (Irish-born doctor), Smirke, Sir Robert (English architect) Balchin, Nigel, B:38 Architecture (The Greek Revival), Small Boy and Others, A book by British Museum, B:581 A:531 Sloe [plant], S:488 Smith Act, S:300 James, Henry (His works), J:21 Slogan Smith, Adam (British economist), \$:496 Small combatant ishipi Advertising, A:63 Economics (Capitalism), E:61; (The clas-Warship, W:43 with pictures Slot machine, S:488 sical economists) E:64 Small Intestine Sloth bear (animal), S:489 with picture Science (The Age of Reason), S:147 **Blood (Transporting nutrients and** Sloth [animal], S:488 with picture Smith, Bessie (American singer), 5:496 wastes), B:396 Ground sloth, G:384 Smith, Cecil [American polo player] Digestive system (in the small intes-Slouch hats, S:489 Polo (History), P:659 tine), D:172 with diagram Slouching Towards Bethiehem lessay Smith, David [American sculptor] Frog picture on, F:465 by Didion Sculpture (Texture), 5:192; (Varieties of Gland (table), G:183; diagram on G:181 Didion, Joan, D:167 abstraction) St217 with picture Human body (The small Intestine and Slough (England), S:489 Smith, Ernest Bramah large intestine), H:355 with pic-Slovakla, S:489 with map See Bramah, Ernest ture Bratislava, **B:526** Smith, Fanny Cochrane (Tasmanian Intestine, 1:298 with diagram Czech Republic, Ci:516 Aboriginel, 5:498 Small World of Fred Hoyle, The [book Smith, Francis Graham (British astron-Czechoslovakia, Ci:522 by Hoylel Slovaks (people), S:492 omerl, 5:496 Hoyle, Sir Fred, H:335 Smith, Francis Pettit (English Inventor) Czech Republic, Cl:516; (People) Smallholding Ship (Development of the screw pro-Cl:517 Dominican Republic (Way of Ilfe), Czechosiovakia, CI:522 peller), S:372 Slovene llanguagel Smith, Frederick Edwin Haiti (Way of life), H:15 Italy (Language), 1:454 See Birkenhead, Lord Smallhythe Place England Slovenes (people) Smith, Grace Cossington [Australian Kent (Places to visit), K:221 Slovenia (People), 5:494 Smallmouth bass Australia, History of picture on, A:819 Yugoslavia (Ancestry and population), Bass (Freshwater bass), B:141 with pic-Smith, Horace (American inventor) Y:471 Sloventa, 5:492 with picture and map ture Handgun (Rapid-fire handguns), H:43 Smallpox, S:495 Smith, Ian Douglas (prime minister of Balkans (Recent developments), 8:44 Jenner, Edward, J:83 Flag picture on, **F:209** Rhodesial, S:498 Medicine (The development of Immu-Ljubljana, L:341 Zimbabwe (History), Z:496

nology), M:316

Fish picture on, F:160

Bomb (Guided bomb), B:435; picture

Smalltooth sawfish

on B:434

Smart bomb

United Nations (The Yugoslav con-

Yugoslavia, Y:470; (History) Y:473

Slavo, Joe (South American politician),

flicts), U:179

Slovenia (People), S:493

Slovenian language

Ci:180

Baptists (Early history), B:100 Ham (Curing and smoking), H:27 S:499 with portrait Smythe, Francis Sydney British moun-Smoking [food] Smith, John [English colonial leader], taineerl, S:503 Fishing industry (Methods of process-S:499 Smythe, Pat [British horsewoman]. ing), F:193 lamestown, 1:24 5(503 Smith, John [wrestler] Ham, H:27 Sn [symbol] Olympic Games picture on, 0:441 Smoking [tobacco], S:501 Tin, T:258 Smith, Joseph American religious Heart (Risk factors), H:104 Snail [animal], S:503 with pictures Smoky bat leaderl, S:499 Bat (Kinds of bats), B:148 Animal (Legs and feet), A:396 Mormons (Revelations), M:609 See also list of Related Articles **Smoky Mountains, Great** Smith, Mamie American jazz musician) Snail darter (fish) See Great Smoky Mountains Jazz (Early jazz), J:75 Smolenskin, Peretz (Hebrew writer) Darter, D:37 Smith, Margaret Snake (reptile), \$:505 with pictures Hebrew language and literature (Mod-See Court, Margaret ern Hebrew literature), H:130 See also list of Related Articles Smith, Maria Ann British market gar-Animal (Adaptations for moving Smollett, Tobias George (English novdener Granny Smith, G:296 elistl. S:502 about), A:396; (Playing dead) Smith, S. Percy [New Zealand scholar] A:404 Novel (The first English novelists), New Zealand, History of (The founding Animal (Incubation), A:406 Smooth brome (plant) Animal pictures on, A:391, A:399, of Aotearoa), N:164 Smith, Sir Charles Kingsford Brome grass, B:585 Reptile (Lizards and snakes), R:231 See Kingsford Smith, Sir Charles Grass (table), G:303 Smooth-clawed toad Tiger snake, T:246 with picture Smith, Sir Keith [Australian pilot], S:497 Snake charming, S:517 with picture Toad (The life of a toad), T:268; (Kinds Aeroplane (Fliers of the golden age), of toads) T:268 Cobra, Cl:138 Smooth fox terrier, S:502 Snake melon A:81 Smith, Sir Ross (Australian pilot), S:497 Melon (Types of melon), M:338 Dog picture on, D:233 with picture Smooth meadow grass iplanti Snake River [U.S.A.], S:517 Aeroplane (Filers of the golden age), Grass (table), G:303 Snakebird Smooth muscle Wryneck, W:424 with picture Smith, Sydney (British clergyman), Allergy (How an allergy develops), Snakebite, S:517 First aid, F:147; (Animal bites and 5:500 A:273 Smith, Sydney Goodsir (Scottish Human body, H:354 stings) F:144 Snakeroot (plant), S:518 with picture writer) Muscle, M:715 Scottish literature (After 1900), 5:177 Snap-action toggle switch Smooth newt Smith, Tony (American sculptor) Animal picture on, A:386 Electric switch, E:164 Sculpture (Varieties of abstraction), Smoothing harrow Snap bean S:217 with picture Bean (Kinds of bean), B:166 Harrow, H:69 Snapdragon [plant], S:518 with picture Smith, William British geologistl, Smörgásbord Snapper [fish], S:519 Food (Customs), F:297 Geology (Experimental geology), G:93 Sweden (Food and drink), So:464 Fish picture on, F:159 Smith, William British sealer Smørrebrød [food] Snare drum Drum (musical instrument), D:324 Antarctica (Discovery of a new conti-Denmark (Food and drink), D:111 Snead, Sam (American golfer), \$:519 nent), A:441 Smithfield Market (London), 5:500 Hinduism (Beliefs of Hinduism), H:209 with portrait Smithson, James (British chemist). Golf picture on, G:250 Smuggling, S:502 Sneddon, Billy (Australian political S:500 Bahamas (History), B:30 Philanthropy, P:364 Port of entry, P:694 leader! Australia, History of (The dismissal), Smithsonian Institution, \$500 Right of search, R:276 Library (North America), 1:228 Smut [fungi], S:502 A:825 Smithson, James, S:364 Barley (Diseases and insect pests), Sneezewort (plant), S:519 Washington, D.C., W:56 Sneezing, S:519 Snell van Royen, Willebrord (Dutch **SMM** isatellitel Fungi (Common kinds of fungi), F:486 Satellite, Artificial (Important satel-Wheat (Care during growth), W:220 mathematician] lites 0, S:96 Smuts, Jan Christiaan [South African Refraction, R:183 Snell, Peter [New Zealand athletel, Smog. S:500 statesman], S:503 Air pollution (Health), A:202 South Africa, History of (The Union of S:519 Environmental pollution (Outdoor air South Africa), So:83; (World War Snell's Law pollutioni, E:301 Refraction, R:183 II) So:84 Snibston Discovery Park [England] Smoke, \$:500 United Nations (The preamble to the Leicestershire (Places to visit), L:159 Smoke detector, 5:501 Charter of the United Nations), Snipe [bird], S:519 with picture Fire brigade (Home inspections), F:129 U:162 Sniperscope [instrument], 5:520 with Smoke generator Smyrna Ham (Curing and smoking), H:27 See Izmir picture Smoke signal Infrared ray, 1:233 Smyth sewing Indian, American (Other communica-Bookbinding (Sewing), B:459 with pic-Snooker [game] Billiards and snooker, B:293 with pic tion), 1:149 Smokehouse Smyth, Dame Ethel | British composer!, tures Colonial life in America (Houses), S:503

Smyth, John [English clergyman]

Snoring, 5:520

Snorkel

Diving, Underwater (Ambient diving), Snowshoe rabbit Sociology, So:11 Hare, H:59 Social change, So:2 D:207 Skin diving (Kinds of skin diving), Snowshoeing Cultural lag. Cl:489 5:472 with pictures Hiking, H:202 Marriage (Changing attitudes about Submarine (The power plant), So:370 Snowstorm marriage), M:219 Seorri Sturiuson licelandic poetl, S:520 Social class, So:2 Blizzard, B:391 Asia (Life in China). A:639 Snowy [river Australia], \$:525 Edda, E:74 Iceland (Early days), 1:23 Snowy Mountains [Australia], S:525 City (The people), Ci:33 Europe, E:365 Australia (Mountains), A:763 Saga, S:17 French Revolution (Background), F:451 Snouck Hurgronje, Christiaan [Dutch Snowy Mountains Scheme, S:525 Middle class, M:452 Murrumbidgee, M:711 scholar], S:520 Village, V:393 New South Wales, N:131 Snout beetle Social Contract, The work by Rous-Snowy owl Reetle (Weevils), B:198 Owl (Kinds of owls), O:529 with pic-Boll weevil, B:431 Democracy (French contributions to ture Grain weevil, G:287 Snuff, S:526 democracy), D:104 See also Weevil Political science (Democracy and so-Tobacco (Manufacturing tobacco Snout butterfly cialism), P:654 products), T:271 Butterfly, B:684 with pictures Snugglepot and Cuddlepie book by Rousseau, Jean-Jacques (His ideas), Snow, S:521 with pictures ROOM Gibbsl Cloud (How clouds form), Cl:110 Social Darwinism, So:3 Gibbs, May, G:154 Rainmaking (Rainmaking methods), Darwin, Charles Robert (The influence Snyder, Gary American poet of Darwin's ideas), D:40 American literature (Poetry), A:319 Road (Clearing ice and snow), R:298 Sociobiology, So:10 So Human an Animai (book by Dubos) Snow blindness, S:523 Spencer, Herbert, So:212 Dubos, René Jules, D:336 Snow line, S:523 Social Democratic and Labour Party So Long to Learn [work by Masefield] Snowshoe, S:524 (SDLP), So:3 Masefield, John, M:241 Weather (Winter storms), W:116 with Fitt, Gerard, F:196 Soames, Lord (British politician), So:1 picture Hume, John, H:368 Soane, Sir John [British architect], So:1 Snow blindness, S:523 Social Democratic Party (SDP) [UK], Bank of England picture on, B:95 Blindness, B:388 Soap Snow bunting, S:523 with picture lenkins, Roy Harris, J:83 Detergent and soap, D:137 Bunting, B:645 Williams, Shirley, W:257 Soap opera Snow goose See also Labour Party; Liberal Demo-Radio (The golden age of radio), R:81 Bird picture on, B:337 crats: Owen, David Television (Commercial television), Goose, G:254 with picture Social development T:119 with picture Snow gum [tree] Adolescent, A:53 Soap plant, So:1 Eucalypts picture on, E:349 Social expression Soap sculpture, So:1 Snow Image and Other Twice-Told Painting, P:35 Soap tree yucca Tales, The (book by Hawthorne) Social freedom Yucca, Y:469 Hawthorne, Nathaniel (His stories and Freedom, F:433; (Limits on social free-Soapberry, So:1 with picture sketches), H:88 dom) F:434 Soapstone, So:1 Snow leopard, S:523 with picture Social Function of Science, The book Talc, T:16 Animal picture on, A:383 by Bernall Soapweed Snow line, S:523 Bernal, John Desmond, B:258 Yucca, Y:469 Snow load Social geography Sobers, Sir Garfield (West Indian crick-Building construction (Parts of a build-Geography (Divisions of geography), eter), So:2 with portrait ing), B:626 G:88 Knighthood picture on, K:299 Snow Maiden, The Imusic by Rimsky-Social group Sobrero, Ascanio litalian chemisti Korsakovi Australian Aborigines, A:838 Nitroglycerin, N:223 Rlmsky-Korsakov, Nikolai, R:278 Mammal (Group life), M:133 Sobti, Krishna [Indian writer] Snow, C. P. [English writer], S:522 Social insect India, Literature of (Contemporary Snow, John [English doctor] Ant (Life in an ant colony), A:429 with trends), 1:129 Map (The development of thematic diagram Sobukwe, Robert Mangaliso Bee, B:184 with pictures; (Social bees) mapping), M:192 Pan-Africanist Congress of Azania, Snowdon [mountain, Wales], S:523 P:111 Gwynedd (Land features), G:439 Beetle, B:196 Soca Imusicl Wales (Surface features), W:14 Bumble bee (Life of the bumble bee), West Indies (Arts), W:167 Snowdonia National Park [Wales] Soccer Aberconwy, A:9 Insect (Family life), 1:257 See Football, Association Gwynedd, G:437; (Recreation) G:438; Termite, T:155 with picture Social and Liberal Democratic Party Wasp, W:63 with picture (Places to visit) G:439 See Liberal Democrats Snowdrop (plant), S:523 with picture Social institution Social anthropology Snowmobile, S:524 with picture Sociology, So:12 Anthropology, A:452 Transportation (Engine-powered land Social interaction Ethnography, E:342 Sociology (Social behaviour), So:12 transportation), T:348 Snowshoe, S:524 with picture Social bee Social introversion Bee, B:184, B:189 Testing (Personality tests), T:163 Indian, American (Transportation), Social behaviour 1:140; pictures on 1:142 1:151 Social learning Sociobiology, So:10 Snowshoe hare, S:524 with picture

Nationalization, N:45

Philosophy (Philosophy in the 1800's),

with picture P:426 Aggression, A:159 Ethics (Developing an ethical system). Political science, P:654 Social motive E:336; (Greek and Roman) E:336 World, History of the (The Industrial Motivation (Learned motives), M:649 Revolution). W:354 Euripides, E:354 Social organization Greece, Ancient (Philosophy), G:349 Socialist City, Ci:22 Law (The influence of ancient Greece). See Socialism Social problems L:113 Socialization [behavioural science]. New York City, N:148 Philosophy, P:423; (Ancient philoso-Sec.10. Social psychology, So:4 phy) P:423 See also Culture; Social psychology; See also list of Related Articles Plato (Plato's life), P:589; (The early dia-Psychology (Major fields of psychol-Social role Parent (The role of parents), P:173 loques) P:590 ogy), P:828 Socratic method Sociology (table), So:11 Sociology (Social behaviour), So:12 Philosophy (Socrates), P:423 Social reform Culture (Culture and society), Cl:492 Socrates, So:15 Progressive movement, P:796 United States, History of the, U:248 Durkheim, Emile, D:355 Soda, So:15 Glass (Recipes for making glass), G:191 Marx, Karl (Marx's theories), M:235 Social relationships Reading (Reading and society), R:158 Soft drink, So:17 Health, H:96 Rock music (Growing social signifi-Soda ash Social role, So:5 cance), R:313; (Punk) R:313 Adolescent (Social development), A:53 Soda, So:15 Romanticism (Romanticism and soci-Soda-lead glass Sex (Sex roles), S:290 Glass (Recipes for making glass), G:191 Socialization, So:10 ety), R:360 Soda-lime glass Sociology (Social behaviour), So:12 Sociology, So:11 Glass (Recipes for making glass), G:191 Women's movement (Women's status Society for Psychical Research Extrasensory perception (Continued through the ages). W:293 Soft drink, So:17 Social science, So:5 belief in ESP). E:434 See also list of Related Articles Society in America book by Mar-Soda water Culture, Ci:490 Soft drink, So:17 tineau) Soddy, Frederick [British chemist], Liberal arts, L:203 Martineau, Harriet, M:232 Public opinion poll, P:839 Society Islands [Pacific Ocean], So:10 So:15 Science, S:141 See also Tahiti Protactinium, P:812 Sodium [element], So:15 Social Security Act Society of British Aerospace Compa-New Deal (The Second Hundred Days), Alkali, A:269 Electrolysis (Uses of electrolysis), E175 N:110 Aviation (Aircraft manufacturing), Isotope (Artificial Isotopes), I:428 Social security A:879 Economics (Public services), E:63 Monosodium glutamate, M:570 Society of Friends Nutrition (Minerals), N:364; (Nutrition Norway (Social welfare), N:293 See Quakers Social welfare, So:6 Socio-economic system guidelines) N:364 Social stratification Salt. S:55 Economics (Early beginnings), E:64 Middle class, M:452 Sociobiology, So:10 Soda, So:15 Social class, So:2 Lorenz, Konrad Zacharias, L:386 Sodium blcarbonate Social structure Baking powder, B:34 Science (Other branches), S:141 Bicarbonate of soda, B:280 Sociology, So:11 Social Darwinism, So:3 Social studies, So:5 Sociocracy Soda, So:15 See also list of Related Articles Positivism (Comte's positivism), P:709 Sodium (Uses), So:16 Social weaver Sociolinguistics Sodium borate Animal (Providing shelter), A:408: Sociology (table), So:11 Borax, B:464 (Group care) A:408 Sodium (Uses), So:16 Sociological research Weaverbird, W:123 Sodium bromide Sociology, So:12 Social welfare, So:6 Sodium (Uses), So:16 Sociology, So:11 Austria, A:860 See also list of Related Articles Sodium carbonate Denmark, D:113 Collective behaviour, Ci:164 Soda, So:15 Health insurance, National, H:97 Sodium (Uses), So:16 Communication, Ci:236 Norway, N:296 Comte, Auguste, Ch271 Sodium chioride Sweden, So:467; (Recent develop-Positivism (Comte's positivism), P:709 Halogen, H:25 ments) So:474 Science (The social sciences), S:141 Hydrosphere, H:408 Rock (Clastic sediments), R:308 Social work, So:7 with picture Sociology of education See also list of Related Articles Salt, S:55 with pictures Sociology (table), So:11 Sodium (Where sodium is found), Police (Juvenile and social work). Sociology of knowledge P:640 Sociology (table), So:11 So:15 Socialism, So:8 Water softening, W:92 Sociology of law See also list of Related Articles Sodium cyanide Sociology (table), So:11 Capitalism, C:144 Cyanide, Ci:508 Sociometry Sodium hydroxide, So:16 Communism, Ci:238, Ci:240 Sociology (table), So:11 Democracy, D:101 Socket [anatomy] Alkali, A:269 Economics (Communism), E:62 Eye (Parts of the eye), E:435 Base, B:123 Government (Pleuralism), G:270 Hydroxide, H:409 Sockeye salmon Marx, Karl. M:234 Salmon (Kinds of salmon), S:53 with Soda, So:15

picture

Socrates [Greek philosopher], So:14

Sodium (Uses), So:16

Sodium nitrate

Saltpetre, S:58 Desktop publishing, D:134 with picnaturalisti. So:22 Sodium (Uses), So:16 Solanum (plant), So:22 Sodium nitrite Softwood See also list of Related Articles Forest products (Timber), F:354 See Nitrite Nightshade, N:217 Sodium silicate Plywood (Kinds of plywood), P:606 Solar activity cycle Grinding and polishing (Grinding Timber, T:248 Magnetic storm, M:53 Solar battery too(s), G:378 Tree (Needleleaf trees), T:374; (Need-Silica gel, S:420 leleaf forests) T:383 Electric eye, E:144 Wood (Kinds of wood), W:299 with Sodium sulphate Solar cell pictures See Salt, Chemical Electric eye, E:144 Woodworking (Wood for woodwork-Electric power (Other sources of elec-Sodium tetraborate Borax. B:464 ing), W:308 tric power), E:159 Sodium thiosulphate Electricity (Sources of electricity), Soham Herschel, Sir John Frederick William, Malachite, M:77 E:16/I нава Soil. So:20 Energy supply (Solar energy), E:249 Invention (Recent developments), See also list of Related Articles Sodium (Uses), So:16 1:320 Sodom and Gomorrah Biblical cities), Arctic (Natural resources), A:542 Solar energy (Capturing direct solar Compost, Ci:250 So:16 energy), So:25 with pictures Conservation, Cl:292; (Soil conserva-Abraham, A:15 tion) Ci:293 with pictures Solar cells Lot. L:395 Electronics (Electronics and light), Cotton (Preparing the soil), CI:384 Soeharto E:190 Dust Bowl. D:357 with picture See Suharto Solar cooker Dust (Dust deposits), D:357 Saekerno Cooker (History), Ch333 Dust storm, D:358 See Sukarno Erosion (Effects of erosion), E:323 Solar cooking Sofia [Bulgaria], So:16 with picture Solar energy (Capturing direct solar Forestry (Water), F:357 Bulgaria (Population and ancestry), Gardening (Analysing the soil), G:38; energy), So:25 B:634 with picture (Preparing the soil) G:38 Solar day Sofia [ship] Day, D:51 Manure, M:170 Nordenskjöld, Nils Adolf Erik, N:239 Time (Measuring time by the sun), Moon (What the moon is made of), Sofonisha (play by Giangiorgio Trissino) T:256 McSRI Drama (Italian Renaissance drama), New South Wales (Economy), N:130 Solar eclipse D:290 Astronomy picture on, A:685 Potato (Growing potatoes), P:719 Soft coal Corona, Cl:360 with picture Prairie (Climate and soil), P:737 Coal (How coal was formed), Ci:120 Eclipse, E:54 with picture Rock, R:307 Soft-coated wheaten terrier, So:17 Moon (Eclipses), M:592 United Kingdom, Geology of the (Geolwith picture Sun pictures on, So:415 ogy and soils), U:109 Soft drink, So:17 Solar energy, So:23 with pictures Soil classification Soft-lander Conservation picture on, Ch299 Soil (How soils are classified), So:22 Space exploration (Space probes), Energy supply, E:249 Soil conservation So:142 Greenhouse, G:360 Conservation, Ci:293 with picture Soft magnetic material Heat pipe, H:122 Soil, So:22 Magnetism (Temporary magnets), Photochemistry, P:433 Soil erosion Sun (Solar energy theories), So:416 Erosion, E:322 Soft-mud process Solar flare Soll geography Brick, B:558 See Flare, Solar Geography (Physical geography), G:88 Soft palate [anatomy] Solar furnace Soil horizon Mouth, M:677 with diagram Heat (The Sun), H:116 Soil (Characteristics of soils), So:21 Palate, P:101 with diagram Solar energy (High-temperature col-Soll pollution Snoring, **\$:520** lectors), So:25 Environmental pollution (Soil pollu-Throat, T:231 Solar heating tion), E:304 Soft-paste porcelain (pottery) Solar energy, So:24 Soll profile Porcelain (Kinds of porcelain), P:668 Solar magnetism Soil. So:20 Pottery (Porcelain), P:722 Sun. So:416 with picture Pottery (Types of pottery), P:722 Soil solution Solar Maximum Mission Soil (Water), So:20 Soft-point bullet Space exploration (Repair missions), Soilless agriculture Ammunition picture on, A:334 So:159 Hydroponics, H:408 Soft rot [disease] Sun (Modern solar study), So:421 Soke [English history], So:22 Bacteria (Harmful bacteria), B:20 Sunspot (Recent findings), So:427 Soft-shell clam **Sokoto Plains** Solar nebula Nigeria (Land regions), N:210 Clam picture on, Cl:50 Solar system (Monistic theories), So:27 Sol, Armando Caldéron ipresident of Soft-shelled crab Solar observatory Blue crab, B:405 FI Salvadori Observatory (Optical observatories), El Salvador (Recent developments), ^{Soft-ti}p pen 0:381 F:224 Pen, P:251 Solar plexus, So:26 Softball (game), So:18 Sol-Gel glass Solar probe Glass (Kinds of glass), G:190 Software Space exploration, So:144 Computer, Personal, Ci:269 Sola topee Solar radiation West Bengal (Local crafts), W:158 Computer (Computer hardware and Solander, Daniel Charles (Swedish Sun, So:419

software), Ci:257

United Kingdom, Legal systems of the

(The legal profession), U:156

Flag picture on, F:206 Solid [mathematics], So:29 Thermosphere, T:217 Honiara, H:272 Geometry (Euclidean geometry), G:96 Solar storms [air] Solomon Islands [island chain], So:32 Solid [physics] Air (The thermosphere), A:186 Solomon's-seal [plant], So:32 with picion (lons in solids), 1:326 Solar system, So:26 with pictures Matter, M:264 See also list of Related Articles Solon [Greek lawmaker], So:33 Solid fuel Astronomy, A:689; (Explaining the ori-Athens (Earliest times). A:707 Fuel, F:478 gin of the solar system) A:698 Greece, Ancient (New forms of gov-Solid geometry Earth, E:23 with picture ernment), G:355 Geometry, G:94 Planet, P:533 with pictures Law (The influence of ancient Greece). Solid Mandala, The (book by White) Radar (In scientific research), R:57 1:113 White, Patrick, W:232 Sun. So:408 Solstice, So:33 Solid-propellant rocket Solar time (calendar) See also Equinox; Season; Tropic of Rocket, R:320 with picture Sidereal time, S:410 Cancer; Tropic of Capricorn **Solid solution** Star (Measuring time), So:283 Solti, Sir Georg [Hungarian conductor], Time (Measuring time by the sun), Solution, So:33 So:33 with portrait Solid-state bonding Solubility Welding, W:143 Solar wind, So:28 Solution (Liquid solutions), So:33 Solid-state electrometer [instrument] Aurora, A:747 Soluble glass Electroscope, E:195 Corona, Ci:360 See Water glass Solid-state laser, L:73 Cosmic rays (Galactic cosmic rays), Solute [chemistry] Cl:370 Solid-state physics, So:29 Solution (Liquid solutions), So:33 Physics, P:474 Earth diagram on, E:21 Solvent, So:34 Science (Physics), S:140 Magnetic storm, M:53 Solution, So:33 Magnetism (The magnetism of the Solid-state watch Osmosis, 0:511 with diagrams Watch (Electronic watches), W:66 earth), M:57 Suspension, So:447 Moon, M:587 Solid waste Solution-gas drive Energy supply, E:249 Planet (Explaining the formation of the Petroleum (Primary recovery), P:346 Environmental pollution (Kinds of enviplanets), P:538 with diagram Solar system (The sun), So:26 ronmental pollution), E:302 with Solution set Sun. So:419; (table) So:410; (Above the Algebra (Statements and equations), Environmental pollution (Solid waste), surface) So:415 A:252 Van Allen belts, V:305 Set theory (In algebra), S:276 Solar year Waste disposal, W:65 Solvent, So:34 Solidarity (trade union) Leap year, L:136 See also list of Related Articles Communism (In Eastern Europe), Year, Y:441 Dry cleaning, D:326 Solder, So:28 Flax (Growing and processing seed Alloy (Other alloys), A:278 Jaruzelski, Wojciech, 1:66 Mazowiecki, Tadeusz, M:284 flax), F:223 Tin (Uses), T:258 Osmosis, 0:511 with diagrams Poland (Government), P:624; (Recent Soldering Pewter (How pewter is made), P:355 developments) P:633 Paint, P:23 Petroleum (Solvent extraction), P:348 Welding, W:143 Walesa, Lech, W:22 Solution (Liquid solutions), So:33 Soidier (Armed services) Solid-state device Soybean (How soybeans are used), Electronics (Types of electrical cir-See Army So:125 Soldler (entomology) cuits). E:186 Solvent evaporation Insect (Family life), 1:257 Solid-state Paint (Industrial paints), P:24 Soldiers (play by Hochhuth) Electronics (Terms used in electron-Solvent extraction Hochhuth, Rolf, H:237 ics). E:185 Corn oil, Ci:357 Soldier's Story, A [book by Bradley] Solihuli [England], So:30 with picture Cottonseed oil, Ci:390 Bradley, Omar Nelson, B:506 See also Green belt; West Midlands Perfume (How perfumes are made), Soldiers Three (book by Kipling) Solís, Juan Díaz de Kipling, Rudyard (His works), K:286 Río de la Plata, R:284 P-280 Petroleum, P:348 Sole [fish], So:28 with picture Solitaire (game), So:30 with picture Rare earth, R:139 Solemn League and Covenant Solitary insect Soybean (How soybeans are used), Scotland, History of (The combined Bee, B:184; (Kinds of bees) B:189 kingdoms), S:172 Beetle, B:196 So:125 Vegetable oil (Production), V:323 Solenodon [animal], So:29 with picture Wasp, W:63 Solway Firth, So:34 Solenoid Solo flight Solzhenitsyn, Alexander Russian nov-Electricity (Magnetism), E:170 Aeroplane (Learning to fly), A:101 elist), So:34 with portrait Magnetism (Electromagnets), M:56 Russian literature (Recent Soviet litera-Solo music with diagram Classical music, Ck56 ture), R:501 Solent [England], So:29 Solomon [Biblical figure], So:31 Somaesthetic cortex Hampshire, H:33 Ecclesiastes, E:51 Brain (The work of the brain), B:514 Soleri, Paolo (Italian-born architect), Ethiopia, E:337 Somalia, So:34 with picture and map 50:29 Jerusalem (Ancient times), 1:93 Ethiopia (Haile Selassie), E:341 Jews (The Kingdom of Israel), J:113 Solicitor Flag picture on, F:201 Australia, Legal system of, A:829 Phoenicia (The spread of Phoenician United Nations (The Somalian operainfluence), P:429 Lawyer, L:123

Solomon Islands [country], So:31 with

picture and map

tion), U:179

Somaliland

Djibouti, D:216 Somalia (History), So:36 Somare, Michael [prime minister of Papua New Guineal, So:36 Papua New Guinea (Making a modern nation), P:149 Somatic cell Heredity (The structure of chromosomes and cells), H:166 Somatic cells [biology] Cell (table: Terms used in the study of cells), C:293 Somatic death Death (Medical aspects of death), D:58 Somatic mutation Heredity (Mutation), H:168 Somatic therapy Psychiatry, P:826 Somatomedin C Dwarf (Hormonal dwarfism), D:360 Somatostatin Hypothalamus, H:417 Sambrero Hat (Why people wear hats), H:76 Mexico (Clothing), M:406 Some Fruits of Solitude (book by Penn) Penn, William (Arrested again), P:259 Some Notes on Lifemanship (book by Potter! Potter, Stephen, P:722 Somerleyton Hall [England] Suffolk (Places to visit), So:389 Somers, Sir George [British admiral] Bermuda (History), B:257 Somers Islands Bermuda (History), **B:257** Somerset (England), So:36 with picture See also list of Related Articles Arms picture on, A:586 Wells [city], W:147 Somerset House (London), So:39 Architecture (Neoclassical architecture), A:529 Somerset, Duke of [English nobleman], So:39 Edward VI, E:94 Somerset, Lord Charles Henry Igovernor of Cape of Good Hopel, So:39 Somes, Michael (English dancer), So:39 Something Happened (book by Heller) Heller, Joseph, H:145 Something of Myself (book by Kipling) Kipling, Rudyard (His life), K:286 Something Wicked This Way Comes lbook by Bradburyl Bradbury, Ray, B:505 Somite (biology) Embryo (Human development), E:227 Somme River [France], So:39 Somme, Battle of the Tank (History), T:28 World War I, W:368 Somnambulism See Sleepwalking Somnath Gujarat (Places to visit), G:422 Somnus See Hypnos

Somoza García, Anastasio [Nicara-Whitman, Walt (His work), W:239 quan dictator], So:39 Song of Roland, The [poem] Son of the Middle Border, A (book by Charlemagne (Military conquests), Garland] C:349 Garland, Hamlin, G:44 Epic. E:311 Sonar, So:39 with picture French literature (Epic poems), F:445 Archaeology (Working underwater), Roland, R:332 Song of Solomon [Old Testament]. Dolphin (The bodies of dolphins), So:41 D:252 Solomon, So:31 "Song of the Cattle Hunters, The" Echo. E:52 [poem by Kendall] Pacific Ocean (Exploration), P:15 Kendall, Henry, K:215 Sound (Using sound), So:53 Song of the Earth, The symphony by Sperm whale, So:213 Submarine (Attack submarine), So:368 Mahler] Mahler, Gustav, M:68 Sonar scanning Song of the Rhône [work by Mistral] Archaeology (Working underwater), Mistral, Frédéric, M:516 A:502 Song of the Stone Wall, The book by Sonar transducer Hydrography picture on, H:406 Keller] Keller, Helen Adams (She helps oth-Sonata [music]. So:40 Classical music (Solo music), Cl:56; ers). K:212 Song thrush (The sonata form) Cl:58 Thrush, T:231 Sonata for Two Planos and Percus-Songbird sion [music by Bartók] Bird (Calis and songs), B:343 Bartók, Béla, B:121 For a list of separate articles on song-Sonatas and Interludes for Prepared birds, see Related Articles at end Plano [music by Cage] of Bird article Cage, John, C:14 Songgram, Fleid Marshal Pibul iking Sonatine [music by Ravel] of Thailandl Ravel, Maurice, R:146 Theiland (After World War II), T:184 Sondheim, Stephen [American com-Songhal Empire (Africa), So:41 with poserl, So:40 Musical comedy (The modern musimap Africa (Kingdoms in western Africa), cal), M:740; (Musical comedy A:150 today) M:740 Askia Muhammad, A:665 Song, So:40 French West Africa (History), F:455 See also list of Related Articles Niger (History), N:205 Bird (Calls and songs), B:343 Nigeria (Early kingdoms), N:213 Classical music, Ci:57 Songs and Sonnets [poem by Donne] Madrigal, M:38 Donne, John (His poetry), D:267 National anthem, N:30 Songs from the Mountains | poetry by Song cycle Kendall) Classical music (Song), Cl:57 Kendall, Henry, K:215 Song dynasty [China], So:41 Songs of a Sentimental Bloke book China (The arts), C:446 with picture; by Dennis (The Song dynasty) C:460 Australia, Literature of (Other poetry), Lacquer picture on, L:9 A:831 Painting (Chinese painting), P:49 Songs of a Sourdough (book by Ser-Pottery picture on, P:722 Tang dynasty (The fall of the dynasty), vice Service, Robert William, S:272 Songs of Experience (work by Blake) World, History of the (China), W:345 Blake, William, B:383 Song form Songs of innocence (work by Blake) Classical music (Simple forms), Cl:58 Blake, William, B:383 Song of Deborah (Biblical ode) Songs of the Army of the Night book Deborah, D:62 by Adams) Hebrew language and literature (Be-Australia, Literature of (Other poetry), ginnings), H:129 Song of Hiawatha, The lpoem by Long-A:830 Songs of the Fleet [poetry by Newbolt] fellow), So:41 Newbolt, Sir Henry, N:176 Evangeline, E:402 Songs of the Sea | poetry by Newbolt Longfellow, Henry Wadsworth, L:378 Newbolt, Sir Henry, N:176 Remington, Frederic, R:212 Songs on the Death of Children Song of Hope [poetry by Walker] (songs by Mahler) Walker, Kath, W:22 "Song of Myself" [poem by Whitman] Mahler, Gustav, M:68 Sonic barrier American literature (Walt Whitman Aerodynamics (Shock waves and sonic and Emily Dickinson), A:315

ture), G:357; (The Graeco n Age)

Soul [music]

Popular music (Pop music), P:683 C-358 booms), A:72 Soul boat Sophocies [Greek writer], So:44 Sonic boom, So:42 Sculpture (Pacific Islands sculpture). Drama (Tragedy), D:286 Aerodynamics (Shock waves and sonic 5:204 Greek literature (Drama), G:357 booms), A:72 Soul for Sale, A [poem by Kavanagh] Oedipus, 0:412 Sound (The speed of sound), So:49 Kavanagh, Patrick, K:203 Sophy of Kravonia (book by Hope) Sonic remote control Soul on Ice [book by Cleaver] Hope, Anthony, H:276 Remote control, R:213 Cieaver, Eldridge, Ci:72 Soranus (Roman doctor) Soninké (people) Soulé, Samuel W. [American Inventor] Hippocrates, H:218 Mauritania (People), M:268 Invention (The late 1800's), 1:318 Sorbonne [Paris], So:44 Sonnet [poetry], So:42 Paris, University of, P:184 Sholes, Christopher Latham, \$:391 Literature (Forms of Literature), L:313 Typewriter (History), T:486 Rabelals, François, R:39 Poetry (Lyric poetry), P:610; (table) Souls of Black Folk, The work by Du P:613; (Forms) P:614 Sorcerer Boisi Shakespeare, William, S:303; S:322 Magic (Elements of magic), M:45 Du Bois, W. E. B., D:334 Witchcraft, W:281 Sonnets for Hélène [poetry by Ronsard] Sorcerer's Apprentice, The Imusic by Sound (geography), So:45 Ronsard, Pierre de, R:385 Sound Inoisel, So:46 with pictures Sonnet. So:42 Dukasl See also list of Related Articles Dukas, Paul Abraham, D:343 Sonnets from the Portuguese | poetry Ear (The sense of hearing), E:9 by Browning! Sorcery Insulation (Insulation against sound), Browning, Elizabeth Barrett, B:594 Australian Aborigines (Magic and Ab-1:270 original doctors), A:838 Sonnets to Orpheus [poetry by Rilke] Phon. P:430 Rilke, Rainer Maria, R:277 Sorghum [plant], So:44 with picture Sorhaindo, Crispin IDominican presi-Physics, P:473 Sonobuov Theatre (Lighting and sound), T:198 Sonar (Uses of sonar), So:40 Vibration, V:354 Dominica (History), D:257 Sonometer, So:42 Sound, Speed of Sound (Early thought), So:53 Sori Aerodynamics (Shock waves and sonic Fern (Parts of a fern), F:35 Sons (book by Buck) booms), A:72 with diagram Soroptimist International jorganiza-Buck, Pearl S., B:608 Aeropiane (Supersonic aeroplanes), Sons of Cain (work by Williamson) tionl. So:45 A:86 Williamson, David, W:258 Sorrel (plant), So:45 with picture Sorrows of Young Werther, The Mach, Ernst, M:8 Sons of Freedom (religious group) Sonic boom, So:42 Doukhobors, D:274 (work by Goethe) Sons of Liberty German literature (Romanticism), Sound, So:49 Waves (Reflection and refraction), Stamp Act, So:270 G:109 W:105 Sons of thunder (religion) Goethe, Johann Wolfgang von (Early Wind tunnel, W:269 James the Greater, Saint, J:23 years), G:227 Sound barrier John, Saint, J:129 Sorting Sonic boom, So:42 Sontag, Susan [American essavist]. Barter, B:120 Sound bites 50:42 Post office, P:712 with picture Television (Effects on institutions), American literature (Fiction and other Wool. W:311 prose), A:320 SOS [distress call], So:45 T-128 Essay (Formal essays), E:330 Soss, Florence von Sound effect Film industry (Adding music and Soo Canals [United States-Canada], Baker, Sir Samuel, B:33 sound effects), F:90 So:42 with picture and map Sotho (people), So:45 Radio picture on, R:81 Canal picture on, C:109 Free State (History), F:432 Shakespeare, William (Costumes and Great Lakes (Water routes to the sea), Moshoeshoe, M:633 sound effects), S:307 G:322 South Africa (People), So:58 Sound measurement Soochow South Africa, History of (Turmoil in the Sound (Measuring sound), So:52 See Suzhou interior), So:79 with picture; (The Sound of Music, The Imusical by Rodg Boer republics) So:80 ers and Hammerstein Islamic art (Other buildings), 1:419 Transvaal (History), T:364 Hammerstein, Oscar, II, H:32 Soong Ching-ling (Chinese political Soto, Hernando de Rodgers, Richard, R:330 leaderl, So:43 with portrait See De Soto, Hernando Sound of Waves, The lbook by Mis-Soong Mei-ling [Chinese public figure] Sot-Weed Factor, The [book by Barth] Chiang Kai-shek (Nationalist victory), American literature (Fiction and other himal Mishima, Yukio, M:508 C:389 prose), A:320 Sound-powered telephone, So:54 Chiang Soong Mei-ling, C:389 with Barth, John, B:121 picture Sou [money], So:45 Sound quality Soot, So:44 Souk Sound, So:49 Sound spectrograph Sooty falcon Morocco (Way of life), M:612 Falcon (Smaller falcons), F:12 Voiceprint, V:415 Sopa paraguaya [food] India, Philosophy of (Body and soul), Sound track Film industry, F:92 with diagram Paraguay (Food and drink), P:163 I:133 Sophia [queen of Spain] Sound wave [physics] Mind (The nature of mind), M:479 Ear (The sense of hearing), E9 with Juan Carlos I, J:153 Plato (Immortality of the soul), P:591 picture Spain picture on, So:171 Religion (A doctrine of salvation). Sophists [educational movement], So:44 R:198 Echo, E:52 Gas (Exploring for gas), G:51 Spiritualism (Beliefs), So:232 Greek literature (Philosophical litera-

Microphone, M:440

Music (Musical instruments), M:727 Railway, R:107 South Australia (Colonization), So:114 Radio (From sound waves to electric Rhodes, Cecil John, R:256 South Australian Company waves), R:74 Scouting, S:182 Australia, History of (South Australia), Sonar, So:39 Segregation (Segregation in other Sound (The nature of sound), So:47 countries), S:239 South Australia (Colonization), So:114 South Bedfordshire (England), So:115 with diagram Standard of living (table), So:275 Waves (Characteristics of waves), Telephone, T:109; (History) T:109 South Bucks [England], So:116 W-104 Television, T:126 South Cambridgeshire [England], Sounding [meteorology] Tennis (Tennis today), T:149 So:116 South Carolina [U.S.A.], So:116 Radiosonde, R:92 Trade unions, T:331 Sounding [navigation] United Nations (Problems in southern United States, History of the (The Fathometer, F:35 with picture Southern Colonies), U:239 Africa), U:178 Sonar, So:39 Village, V:393 South China Sea Western Cape, W:183 See China Sea Sounding rocket Rocket (Atmospheric research), R:318 South Africa, Art of, So:69 with pic-Pacific Ocean (Coastline and Islands), with picture tures P:14 South China tiger Space exploration (Space exploration See also list of Related Articles Tiger (The rare tiger), T:245 terms), So:130; (Early unmanned South Africa, Government of, So:73 South Dakota [U.S.A.], So:116 with pictures explorations) So:142 South Derbyshire (England), So:117 South Africa, History of, So:76 with Soundproofing South Downs Acoustics (Architectural acoustics), pictures See Downs Anglo-Boer Wars, A:369 with map A:25 South Downs Way (England) Insulation (Insulation against sound), Anglo-Zulu War, A:371 Sussex (Places to visit), So:449 Bophuthatswana, B:464 1:270 South geographic pole South Africa, Government of,, So:73 Soupa avgolemono (food) Antarctica (Land regions), A:438 South African homelands, So:87 with Greece (Food and drink), G:335 South Pole, So:118 Sour cream butter man South Georgia lisland, Atlantic South America, So:88 with pictures Butter (Churning), B:678 Falkland Islands, F:14 with map and maps Sour natural buttermilk Penguin picture on, P:257 See also list of Related Articles Buttermilk, B:691 South German Hills Bird (Birds of Central and South Amer-Sour orange Germany, G:124 ica), B:330 with pictures; (Endan-Orange, O:482 gered species) B:357 South Glamorgan Source Glamorgan, G:177 Football, Association, F:334 River (The source of a river), R:289 South Hams [England], So:117 Line of demarcation, L:291 with map Waves (Characteristics of waves), South Herefordshire [England], So:117 Mountain, M:667 W:104 South Holland (England), So:117 National parks, N:43 Sources of Modern Architecture and Pacific Ocean (Boundaries and size), South Island Design, The (work by Peysner) New Zealand, N:158 with map Pevsner, Sir Nikolaus, P:355 South Jersey glass Pyramids (American pyramids), P:873 Soursop (fruit) Glass (Types of art glass), G:198 with Railway, R:104 Custard apple, Cl:505 picture South American coral snake Sousa, John Philip (American com-South Kesteven (England), So:117 Coral snake, Cl:350 poser, So:54 South Korea South American leaf fish Sousaphone Asia (Way of life in East Asia), A:639; Fish picture on, F:165 Music (Brass Instruments), M:728 (Korea and Taiwan) A:641; (The South American ostrich Tuba, T:431 spread of Communism) A:661 Ostrich, 0:514 South Africa, So:55 Inchon, E51 Rhea, R:249 with picture See also list of Related Articles Korea, K:318 with pictures and map South American tapir Apartheid, A:469 Korean War, K:330 Animal picture on, A:389 Aviation (Aircraft nationality marks), Standard of living (table), So:275 South Asia A:881 South Lakeland (England), So:117 Asia (Way of life in South Asia), A:633 Clskei, Cl:14 South Magnetic Pole [geography] with pictures Communism (In non-Communist coun-Antarctica (Land regions), A:438 South Asian Association for Regional Earth (The earth's magnetism), E:21 tries), Cl:244 Cooperation (SAARC), So:104 Cricket (Cricket in South Africa), Cl:433 Magnetic equator, M:51 South Australia, So:105 with pictures Decorations, medals, and orders Magnetism (The magnetism of the and maps earth), M:57 (Africa), D:75 See also list of Related Articles Diamond (Where natural diamonds South Pole, So:118 Adelaide, A:42 with pictures and maps South Moon Under [book by Rawlings] are found), D:154 Australia, History of, A:802; (Self Rawlings, Marjorie Kinnan, R:147 Eastern Cape, E:45 with picture mment) A:808; (Land reform) Education, E:87 South Norfolk [England], So:117 A:808 Flag picture on, F:202 South Northamptonshire (England), Australian Rules football (Organization Football, Association (Africa), F:334 of football), A:853; (Famous play-So:117 Government, G:275 South Orkney Islands ers) A:854 Minority group (Results of minority Falkland Islands, F:14 Selection acts, S:243 South Oxfordshire [England], So:117 status), M:501 Squatters in Australia, So:252 Nuclear weapon, N:335 South Pacific imusical by Rodgers and South Australia Colonization Act Police, P:642

[1834]

Racism, R:51

Hammerstein

Hammerstein, Oscar, II, H:32 Rodgers, Richard, R:330 South Pacific Association Boxing (Organizations), B:498 South Pacific Commission lorganizationl, So:117 South Pacific Games, So:118 South Pembrokeshire (Wales), So:118 South Pole, So:118 See also list of Related Articles Amundsen, Roald, A:345 Antarctica (East Antarctica), A:440 Earth picture on, E:17 (The earth's magnetism) E:21 Oates, Lawrence Edward Grace, 0:376 Scott, Robert Falcon, S:174 South pole [magnetism] Magnetism (Magnetic poles), M:55 with diagram; (Electromagnets) M:56 with diagram South Queensferry [Scotland] Lothian Region (Places to visit), L:396 South Ribble (England), So:118 with pic-South Sandwich Islands Falkland Islands, F:14 South Sea [former name, Pacific] Balboa, Vasco Nuñez de, B:37 South Sea Bubble, So:118 South Sea Islands See Pacific Islands South Shetland Islands Falkland Islands, F:14 South Shropshire [England], So:119 South Slavs [people] Slovenia (History), S:494 Yugoslavia (History), Y:473 South Somerset (England), So:119 South Staffordshire (England), So:119 South Tyneside (England), So:119 South Vietnam Geneva Accords, G:82 Indochina, I:180 Vietnam, V:374 Vietnam War, V:383 with map South West Africa See Namibia South West Africa People's Organization (SWAPO) Namibia (History), N:14 United Nations (Problems in southern Africa), U:178 South Wight [England], So:119 Wight, Isle of (Local government), South Wind [novel by Douglas] Douglas, Norman, D:272 South Yemen See Yemen South Yorkshire Yorkshire, Y:457 Southall, Ivan [Australian writer], So:119 Southampton [England], So:119 with picture Hampshire (Transport and communication), H:34

Southcott, Joanna [British religious

Southeast Asia, So:120 with map

zealoti. So:120

Asia (Way of life in Southeast Asia), A:636 with pictures Association of Southeast Asian Nations. A:673 Communism (Expansion in Southeast Asia). Ci:242 East Indies, E:41 Vietnam War, V:385 **Southeast Asia Treaty Organization** (SEATO), So:121 Philippines (The Magsaysay era), P:413 Southeast Asian Ministers of Education Organization (SEAMEO), So:121 with picture Southend-on-Sea (England), So:122 Essex (Local government), E:332; (Transport and communication) Southern Christian Leadership Conference (SCLC) King, Martin Luther, Jr. (Early civil rights activities), K:253 Young, Andrew Jackson, Jr., Y:462 Southern Cross (aeroplane) Aeropiane (Fliers of the golden age), Kingsford Smith, Sir Charles, K:281 with picture (Flying the Pacific) K:282 Southern Cross [astronomy], So:122 with picture Southern Cross, The [play by Esson] Esson, Louis, E:334 Southern from Frog (Other frogs), F:468 Southern Hemisphere Astronomy (The sky at different latitudes), A:688 Hemisphere, H:148 with diagrams Ocean (Currents). 0:394 Season, S:229 Southern lights Air (The thermosphere), A:186 Southern Limestone Alps Austria, A:863 Southern magnolia Magnolia, M:60 with picture Southern Peninsula Thailand, T:182 Southern redbelly dace Fish picture on, F:166 Southern Rhodesia Rhodesia and Nyasaland, Federation of, R:256 Zambia (History), Z:488 Zimbabwe (History), Z:496 **Southern Rockies** Rocky Mountains (Chief ranges of the Rockies), R:327 Southern Snout Butterfly picture on, B:685 Southern States [region, U.S.A.] United States, U:189 Southern Tablelands [Australia]. So:122 Southern Uplands China, C:452

Mexico, M:412

Netherlands, N:95

Southern Yemen See Vemen Southey, Robert [British poet], So:122 with portrait Coleridge, Samuel Taylor (His life). Ci:161 Inchcape Rock, I:51 Lake poets, L:28 Mouse Tower, M:677 Nelson, Horatio (Victory at Trafalgar), N:72 Southland [New Zealand], So:122 with picture Southport (England) See also Sefton Mersevside (Places to visit), M:368 Southwark [England], So:123 Shakespeare, William (The Globe Theatre), S:302; picture on S:306 Southwell Minster [England] Nottinghamshire (Places to visit), N:307 Southwell, Robert (English poet), So:123 Southwest Asia Asia (Way of life in Southwest Asia), A:630 with pictures Southwestern Lowlands Afghanistan, A:114 Southwestern Plains Nigeria, N:211 Southwestern States Region [U.S.A.] United States, U:191 Soutpansberg (mountains, South Africal Northern Province (Land), N:277 Souvenirs Tourism (In The Middle Ages), T:313 Souvenirs Entomologiques work by Fabrel Fabre, Jean Henri Casimir, F:3 Souvlaki [food] Greece (Food and drink), G:335 Sovereign (money) Pound, P:727 Sovereign of the Seas (ship) Ship (Ocean liners), S:376 Sovereignty, So:123 Government, G:267 International relations, 1:293 Territorial waters, T:158 Treaty, T:369 Soviet, So:123 Soviet air force Air force, A:194 Soviet literature Russian literature, R:500 Navy (The world's major navies), N:58 Soviet Navy Soviet Turkestan Turkestan, T:453 with picture Soviet Union See Union of Soviet Socialist Repub Sow thistle, So:124 with picture Soweto (South Africal, So:124 South Africa, History of (The Soweto Uprising), So:86 Soy flour

Soybean (Soy meal), So:125 Space medicine Drill (Metal drills), D:308 Soy grit Aerospace medicine, A:107 Spadefoot toad Soybean (Soy meal), So:125 Space exploration (Protection against Frog. F:468 Soy meal the dangers of space), So:135; pic-Toad (Kinds of toads), T:268 ture on So:136 Spadework; Adventures in Archaeol-Sovbean, So:123 ogy [book by Woolley] Space probe Soy of Soybean, So:126 diagram Rocket (Launching probes and satel-Woolley, Sir Leonard, W:313 Soy protein concentrate lites). R:318 Spadix (botany) Soybean (Soy meal), So:123 Space exploration, So:128, So:142 Arum, A:615 with pictures; (Space exploration Jack-in-the-pulpit, J:3 with picture Sova bean terms) So:130 **Spaghetti** See Soybean Soybean, So:124 with picture Sun (Modern solar study), So:421 See Pasta Spain, So:164 with pictures and maps Bean (Kinds of bean), B:166 White, Edward Higgins, II, W:231 See also list of Related Articles Japan (Food and drink), 1:42 "Space race" Space exploration, So:128; (The space Aviation (Aircraft nationality marks), Tofu, T:273 race begins) So:141 Sovinka, Wole [Nigerian poet], So:127 Aztec (The Spanish conquest), A:902 Space research Nigeria (The arts), N:210 Bahamas (History), B:30 Soyuz (spacecraft) Woomera, W:314 Bolivia (Colonial rule), B:429 Space shuttle Rocket picture on, R:319 Bourbon, B:488 Astronaut (table). A:683 Space exploration (Making ready), Christmas, C:489 Exploration (Space exploration), E:428 So:149; (Soviet attempts to reach Cuba (Struggle against Spain), Cl:480 with picture; (table) E:429 the moon) So:154 with pictures Decorations, medals, and orders, D:75 Rocket (Launching probes and satel-Spa Drake, Sir Francis (Expeditions against lites), R:318 Bath (Medical bathing), B:150 Spain), D:283 Space exploration, So:157 with pic-Czech Republic (The Bohemian Moun-Europe (table), E:359 tures; (Launch vehicles) So:132 tains), Cl:518 Fascism (Fascism in other countries), with picture Hungary (Recreation), H:376 with pic-Space exploration (Overcoming grav-F:31 ture Flag picture on, F:209 ity), So:133 with diagrams Hydrotherapy, H:409 Honduras (The colonial period), Ht263 Space exploration (Space exploration Mineral water, M:489 Inca (The Spanish conquest), 1:51 terms), So:130; picture on So:129 Spaak, Paul-Henri (Belgian statesman), Isabella I. I:411 with picture "Space sickness" So:127 Italy (Spanish and Austrian rule), 1:458 Space exploration (Microgravity), Space [aesthetics] Juan Carlos I, J:153 with portrait So:135 Architecture (Elements of architec-Madrid, M:36 with picture Space station ture), A:516 Mexico (Revolt against the Spanlards); Johnson Space Center, J:134 Metaphysics, M:379 (independence), M:420 Space exploration, So:128, So:155 Painting, P:36 with picture Mexico (The Spanish conquest), with picture and diagram, (Space Photography, P:444 M:418; (Spanish rule) M:418 exploration terms) So:130 Space lastronomy) Morocco (French and Spanish con-Space exploration (Docking), So:138; Space exploration (What is space?), trol), M:615 (Assembling space stations) So:130 Netherlands (Unification), N:98; (Free-So:138 United Nations (Peaceful uses of outer dom from Spain N:98 Space suit space and the seabed), U:180 Nuclear energy (table), N:328 Space exploration (Leaving the space-Space adaptation syndrome Panama (The Spanish colonial period), craft), So:138 with picture Motion sickness, M:648 Space surveillance Space exploration (Microgravity), Peru (Spanish conquest and rule). Radar, R:55 So:135 P:315; (The war of Independence) Space age Space telescope Astronomy (Other telescopes), A:694 Space exploration, So:140 Philippines, History of the (The Span-Space tether Space centre ish periodi, P:405 Space exploration (Expanding space Space exploration (Space exploration Puerto Rico (History), P:848 activities), So:162 Royal families, R:420; picture on R:419 terms), So:130 Space-time (mathematics) Space exploration, So:128 with pic-Succession wars (War of the Spanish Fourth dimension, F:376 tures Succession), So:378 Space travel Astronomy (Space exploration), A:699 United States, History of the (Explora-See Space exploration Disaster (Accidents), D:188 tion and early settlementi, U:237 Space tug Life (The search for life on other plan-Spalato Rocket (Space travel), R:318 ets), L:250 See Split Spacecraft Mercury (Flights to Mercury), M:363 Spalding, Albert G. (American sports-Goddard, Robert Hutching, G:225 Radar, R:58 with picture Radar (In space travel), R:58 with pic-Union of Soviet Socialist Republics Doubleday, Abner, D:272 ture Spallanzani, Lazzaro Italian biologisti, (Science and technology), U:30 Space exploration, So:128; (Space ex-Von Braun, Wernher, V:425 ploration terms) So:130; (Getting So:189 World, History of the (The world since Spandex into space and back) So:132

Spacelab (space laboratory)

Spade bit

Space exploration (Spacelab missions),

So:160; picture on So:159

Fibre, F:66

Spaniel (dog), So:189

Spanish America, So:189

Spanish-American War, So:189 with

1900), W:356 with picture

Space exploration (The shuttle era be-

Space Flight Participant" pro-

gramme

gins), So:158

Remarque, Erich Maria, R:209

Car (How a car works), C:153.

Spark plug

New Caledonia picture on, N:108 Ceramics (Electrical equipment), C:326 picture Spearhead Cuba (Struggle against Spain), Ci:480 with picture Ignition (Parts of an ignition system), Prehistoric people (Neanderthals), with picture 1:28 with diagram Puerto Rico (History), P:848 Spearmint [plant], So:205 with picture Petrol engine (Ignition system), P:334 Reed, Walter, R:178 Special court Sparkling wine Rough Riders, R:411 Wine, W:273; (Clarifying and aging the Australia, Legal system of (Special United States, History of the, U:255 courts and tribunals), A:828 Spanish Armada, So:190 with picture wine) W:275 Special drawing rights [SDR's], Sparling Elizabeth I (The Spanish Armada), E:213 Smelt, S:496 International Monetary Fund (IMF), Sparring partner England (The reign of Elizabeth I), Boxing (Boxing skills), B:496 with pic-E:278 Money (International reserves), M:556 Navy (The beginning of modern na-Sparrow [bird], So:200 with pictures Special economic zone vies), N:60 Bird pictures on, B:322; B:324 Communism (China after Mao), Cl:243 Raleigh, Sir Walter (His expeditions), Special education, So:206 with picture Sparrowhawk [bird], So:201 with pic-See also list of Related Articles Spain (The Spanish decline), So:183 ture Education, E:84 with picture Hawk, H:83 Handicapped, H:46 with picture Spanish bayonet [tree], So:191 Sparta [Laconia], So:201 with maps United Kingdom, Educational systems Greece, Ancient, G:352; (The rivalry Yucca, Y:469 of the (Special schools), U:96 between Athens and Sparta) Spanish Capriccio Imusic by Rimsky-Special effects G:353 Korsakovl Film industry pictures on, F:89 Pericles (War with Sparta), P:281 Rimsky-Korsakov, Nikolai, R:278 Special Olympics, So:207 with picture Spanish Civil War Spartacus [Greek slave rebel], So:202 Special theory of relativity Spas (towns), So:203 See Spain (History) Astronomy (A new view of the uni-Spanish drama Spastic colon verse), A:699 Drama, D:292 with picture Colitis, Ci:163 Motion (Modifications of Newton's Spanish fly, So:191 Spastic paralysis, So:203 laws), M:648 Spanish Hour, The [music by Ravel] Paralysis (Paralysis of central nervous Ravel, Maurice, R:146 system origin), P:168 Relativity, R:191 Spanish Inquisition Special weapons unit Spat See Inquisition Oyster (Young), 0:540 Police, P:640 Spanish language, So:191 Spathe Specialist Medicine, M:308 with pictures United States (Language), U:195 Arum, A:615 with picture Spanish literature, So:193 Spatial relations Speciality store See also list of Related Articles Geography, G:87 Retailing, R:244 Drama (The Golden Age of Spanish Spavin (animal diseases), So:203 Specialization (economics) Agriculture (Specialized farms), A:163 drama), D:292 with picture Spawn, So:203 Trade (Trade and specialization), T:324 Spanish Main, So:199 Animal (Animal travellers), A:410 Spanish moss [plant], So:199 Specialized magazine Fish (Reproductive system), F:170; Spanish Rhapsody [music by Albeniz] (How fish reproduce) F:176 Magazine, M:40 Albeniz, Isaac, A:233 Speciation Spaying Evolution (Main ideas of evolutionary Spanish Sahara Cat (Birth control), C:253 theory), E:406; (Evolution of new See Western Sahara Dog (Social and moral responsibilispecies) E:408 Spanish Succession, War of the [170]ties), D:238 1714] Pet (Birth control), P:323 Species [biology] Austria (Wars in the 1700's and 1800's), Speak with the Sun |poetry by Camp-Animal, A:376 Animal (The origin and development A:866 Seven Years' War (In Europe), S:282 of animals), A:411 Campbell, David, C:63 Classification, Scientific (The language Spain (The Spanish decline), So:183 Speakeasy of classification), Ci:66; (Groups in Succession wars, So:378 Alcoholic beverage (History), A:238 Utrecht, Peace of, U:288 classification) Ci:67 Roaring Twenties, R:299 Evolution (Evolution of new species), Spanish Town [Jamaica], So:199 Speaker (electronics), So:204 E:408; (Geographic distribution of Spanish Tragedy, The [play by Kyd] High-fidelity system, H:197 with pic-Drama (Elizabethan playwrights), species) E:410 D:291 Radio, R:77 with picture Specific gravity Kyd, Thomas, K:348 Sound (Using sound), So:53 Gem. G:71 Spar torpedo Speaker [office], So:203 with picture See also Density Torpedo (History), T:303 Canada, Government of, C:93 Specific heat Heat (Changes in temperature), H:119 Spark, Muriel [British author], So:199 Onslow, Arthur. 0:453 Spark chamber, So:199 with picture Speakers' Corner Specific rationing Spark ignition Rationing, R:143 London (Parks), L:371 Specimen Days (book by Whitman) Ignition, 1:28 "Speaking telegraph" Whitman, Walt (His work), W:239 Edison, Thomas Alva (The Wizard of Spark-ignition engine Diesel engine, D:168 Speckled moray eel Menlo Park), E:81 Fish picture on, F:162 Spark of Life [book by Remarque] Spear, So:204 with pictures

Australian Aborigines (Spears and

Spearfishing So 205 with picture

womeras), A:836 with pictures

Circus (At the circus), Cl:9 with picture

Drama (Other parts of drama), D:285

Spectacle

Freedom of speech, F:436

Insect picture on, I:260 picture Sperm whale, So:213 Redback spider, R:175 Spider crab, So:228 Ambergris, A:302 Animal picture on, A:394 Spermaceti, So:213 Spider monkey, So:228 Whale, W:207 **Spiderlings** Spermaceti, So:213 Spider, So:226; picture on So:225 Ambergris, A:302 Spiegleleisen Sperm whale, So:213 Manganese (Uses), M:152 Whale (American whaling), W:211 with Spleiberg, Steven (American film direcpicture Spermatozoa tor], So:228 with picture Animation (Animation today), A:422 Fertilization, F:59 **Spermicide** Film industry (Changes in Hollywood), Birth control (Methods of birth control), B:368 United States picture on, U:204 Sperrin Mountains [Northern Ireland], Spike [botany] Inflorescence, I:232 So:213 Spikelet [botany] Northern Ireland (Surface features), Oats (The oat plant), 0:377 N:273 with map Sperry, Elmer Ambrose (American sci-Spikenard [plant], So:228 entist, So:214 Spin Gyrocompass, G:444 Boson, B:475 Spin-casting [optics] Gyroscope (History), G:446 Sphagnum Moss Telescope (Recent developments in North America (Plant life), N:254 telescopes), T:116 Peat moss, P:239 Spin-casting reel Sphalerite [ore], So:214 Fishing (Fishing equipment), F:183 Sphere, So:214 with diagram with picture Diameter, D:153 Spina bifida, So:228 Earth, E:16 Birth defect, B:368 Geometry (Types of geometry), G:96 Reproduction, Human (The central with picture nervous system), R:229 Spherical aberration Spinach Iplanti, So:229 with picture Aberration, A:11 with diagram Spinach jade Spherical triangle Jade, J:9 Navigation (Celestial navigation), N:54 Spinal cord Trigonometry, T:402 with diagram Fish (Nervous system), F:170 Spherold, So:214 Nervous system (The central nervous Sphincter muscle [anatomy] system), N:81 Eye (The uveal tract), E:435 Spine, So:229 Sphincter of Oddi (anatomy) Spinal poliomyelitis Gall bladder, G:15 Poliomyelitis (Kinds of poliomyelitis), Sphinx [mythology], So:215 with picture P:646 Oedipus, 0:412 Spinal reflex Pyramids (The pyramids of Giza), P:873 Human body (The central nervous sys-Riddle, R:272 tem), H:358 Sphinx moth Nervous system (Simple pathways), Hawk moth, H:85 N:B3 Moth (Hawk moth), M:643 Spinal tap Sphygmomanometer Cerebrospinal fluid, C:328 Heart (Invention of new medical instru-Meningitis (Symptoms and diagnosis), ments). H:111 M:348 Spica [astronomy], So:216 Spindle tuber Spice [food], So:216 Potato (Diseases and insect pests), See also list of Related Articles Ginger, G:161 with pictures Spine (anatomy), So:229 with diagram Spice Islands, So:216 See also list of Related Articles Indonesia (The Moluccas), 1:190 Human being (Physical characteristics), Magellan, Ferdinand (Planning the ex-H:346 with picture pedition), M:42 Spine [zoology] Spider, So:217 with pictures Fish picture on, F:174 See also list of Related Articles Spinet Imusical instrumentl, So:229 Spinifex (grass), So:229 Animal (Courtship behaviour), A:38B, A:405; pictures on A:383 Spinner Black widow, B:377 with picture Fishing (Bait), F:184 Brown recluse, B:593 with picture Spinner dolphin Fiddleback spider, F:69 Dolphin (Other species), D:252 Funnel web spider, F:487 with picture Spinner machine Huntsman spider, H:386 Washing machine, W:51

Rayon (How rayon is made), R:148 Spider (The spider's body), So:220 Spinning [fishing] Fishing (Coarse fishing), F:186 Spinning [process], So:230 with picture See also list of Related Articles Cotton, Cl:387 with picture Culture (Invention), Ci:493 Pewter (How pewter is made), P:355 Rayon, R:148 Spinning frame Textile (Making the yarn), T:172 Spinning jenny, So:230 Cotton (England), Cl:388 Hargreaves, James, H:60 with picture Industrial Revolution (Spinning machines), I:213 Invention (Why people invent), 1:310 Spinning, So:230 Textile (The Industrial Revolution), T:175 Spinning mule Cotton (England), Ci:388 Crompton, Samuel, Cl:450 with pictune Industrial Revolution (Spinning machines), 1:213 Textile (The Industrial Revolution), T:176 Spinning reel Fishing (Fishing equipment), F:183 with picture Spinning wheel Industrial Revolution (Spinning machines), 1:213 Spinning, So:230 with picture Textile (During the Middle Ages), Spinoza, Baruch (Dutch philosopher), Ethics (Systems of ethics), E:336 Philosophy (Rationalism), P:424 Spinthariscope Crookes, Sir William, Cl:452 Spiny anteater Echidna, E:51 with picture Spiny dogfish [fish] Dogfish, D:241 Spiny eel Fish picture on, F:164 Spiny-headed worm Animal (A classification of the animal kingdom), A:414 Spiny puffer [fish] Porcupinefish, P:690 with picture Spiny-tailed iguana Iguana, 1:30 Spiracle Animal (Adaptations for breathing), A:399 with picture Butterfly (The respiratory system), B:687 Grasshopper (The body), G:304 Insect (Respiratory system), 1:250 Mosquito (Abdomen), M:635 Moth (The abdomen), M:640 with dia-

Spinneret

Butterfly (The larva), B:688

Moth (The larva), M:641

Life, L:249

gram Spider (Respiratory system), So:220 Spiraea Iplanti, So:231 with picture Spiral fracture Fracture, F:390 with diagram Spiral galaxy Dark matter, D:35 Galaxy (Kinds of galaxies), G:10 with picture Maffei galaxies, M:39 Spiral letty isculpture by Christol Sculpture (Environmental sculpture), S:218 Spire (architecture), So:231 with picture Spirilla bacteriologyi Bacteria (The structure of bacteria), B:20 with pictures Spirit [liquor] Alcoholic beverage, A:237 Distilling, D:204 Spirit of 76 (painting by Willard), So:231 with picture Spirit of England, The Imusic by Elgar Elgar, Sir Edward William, E:210 Spirit of St. Louis [aeroplane] Aeroplane (Fliers of the golden age), A:81 Undbergh, Charles Augustus (His historic flight), L:289 with picture Spirit of the Age, The work by Hazlittl Hazlitt, William, H:92 Spirit of the Laws, The book by Montesquieu] Age of Reason (The orderliness of nature), A:157 Freedom (During the Age of Reason), F:435 Montesquieu, M:576 Spirit of the Nation, The Irish literature (Prose and poetry), 1:382 Spirit of Youth and the City Streets, The [book by Addams] Addams, Jane, A:33 Spirit power Indian, American (Religion), 1:148 Spirits of camphor Camphor, C:63 Spiritual (religious song), So:232 Popular music (The development of popular music), P:682 Spiritualism, So:232 Occultism, O:384 Psychical research, P:826 Religion (Religion today), R:205 Spirochaete Relapsing fever, R:191 Yaws [disease], Y:441 Spirometer [instrument], So:232 with picture Spit Beach, B:164 Spittire [aircraft] Battle of Britain, **B:157** with picture Mitchell, Reginald Joseph, M:517 Spithead Mutiny Naval mutinies, N:51 Spitteler, Carl (Swiss author)

Switzerland (Arts), So:495

Spitz [dog], So:233 Spitz, Mark [American swimmer] Olympic Games (The modern games), Swimming (History), So:489 with picture Spleen (anatomy), So:233 with diagram Blood (Destruction of worn-out blood components), B:398 Frog diagram on, F:465 Lymphatic system (Lymphoid tissue), L:426 Thymus, T:234 Splendid fairy wren Wren, W:414 Knots, hitches, and splices, K:307 with pictures Splicing (rope), So:233 Split (Croatia), So:233 Split brain Brain (The work of the brain), B:514 Split complementary colour Colour (Producing colour harmony), CI-108 Split Infinitive (grammar) Infinitive, 1:229 Split-leaved philodendron [plant] Gardening (Some popular house plants) picture on, G:41 Split ring Electric motor (Parts of an electric motor), E:154 Spock, Benjamin McLane (American doctorl, So:234 Spode china, So:234 with picture Spode, Josiah British potter Porcelain (English porcelain), P:690 Spofforth, Fred [Australian cricketer], So:233 **Spoller** Aeroplane (Wing), A:89 Glider (Landing), G:208 Spoils system (U.S. politics) Garfield, James Abram, G:44 United States, History of the (Jackson as president), U:248 Spokane [U.S.A.], So:234 Sponge [sea animal], So:233 with pictures Animal (Regeneration), A:406; (A classification of the animal kingdom) A:414 Invertebrate, 1:322 Sponge rubber Rubber, **R:436** Sponson Hydropiane, H:407 Sponsor's mark Hallmark, H:24 Spontaneous abortion Miscarriage, M:508 Pregnancy (Miscarriage), P:742 Spontaneous combustion, So:236 Spontaneous emission Laser (The nature of atoms), L:72

Spontaneous generation, So:237

Leewenhoek, Anton van, L:152

Biogenesis, B:300

Spoon (fishing) Fishing (Bait), F:184 Spoon River Anthology | poetry by Mastersl American literature (Modernist poetry), A:317 Masters, Edgar Lee, M:248 Spoonbill [bird], So:237 with picture **Sporangiophore** Fungi (Parts of a fungus), F:485 Sporangium Fern (Parts of a fern), F:55 Fungi (Parts of a fungus), F:485; (Common kinds of fungi) F:486 Mould, M:653 Plant (Sexual reproduction), P:556 Spore (Plant spores), Soc238 Spore, So:238 with diagram Alternation of generations, A:288 Bacteria (Where bacteria live), B:21 Earth (The Palaeozoic Era), E:27 Fern (Parts of a fern), F:35 Fungi (Parts of a fungus), F:485; (How a fungus Ilves) F:485 Lichen (How lichens grow), 1:240 Moss (How mosses live), M:637 Mushroom (Parts of a mushroom). M:721 with picture Plant (Sexual reproduction), P:556: (Diseases) P:567 with pictures Protozoan (Reproduction), P:818 Pteridophyte, P:833 Reproduction (Fungi), R:224 Rust, R:504 Seed (How seeds develop), \$:236 Slime mould, \$:487 Sporophyte Alternation of generations, A:288 Bryophyte, B:604 Fern (Life cycle of a fern), F:55 Hornwort, H:283 Liverwort, L:336 Moss (How mosses live), M:637 Plant (Sexual reproduction), P:556 Spore (Plant spores), So:238 Sporozoa See Protozoan Sporran Kilt, K:251 Sport Igenetical, So:238 Fruit (Developing new varieties of fruit), F:474 Sport balloon Balloon (Kinds of balloons), 8:60 (Recreational uses) B:62 Sport bike Bicycle (Road bikes), B:281 Sporting dog Dog (Sporting dogs), D:226 with pictures Sports betting Gambling, G:23 Sports, So:239 See also list of Related Articles Hobby (Kinds of hobbies), H:236

Sports car

Car racing, C:181

Sports medicine, So:239

Wain, John, W:5

Spring [season], So:240

Spring [metal device], So:240

Spurgeon, Charles Haddon (British re-Spot [fish], So:239 with picture Season, S:229 Spring [water], So:240 with diagram ligious leader, So:243 SPOT [satellite] Sputnik [satellite], So:243 Hot springs, H:317 Satellite, Artificial (Important satellites), lodrell Bank Observatory, J:123 Spring balance S:96 Rocket (The space age), R:323 Balance, B:34 Spot rate Satellite, Artificial, S:95; (Important sat-Spring barley Exchange rate, E:413 ellites) S:96; (History) S:98 with Spotted alder Barley (Cultivation), B:112 picture Spring beauty [plant], So:240 with pic-See Witch hazel Space exploration (The first artificial Spotted bass satellites), So:141; (Early un-Spring blackstem Bass picture on, B:141 manned explorations) So:142 Alfalfa (Diseases and pests), A:248 Spotted cucumber beetle Union of Soviet Socialist Republics Beetle picture on, B:199 Spring calliper (instrument) (Science and technology), U:30; Calliper, C:42 Spotted dolphin (Khrushchev's policies) U:40 Dolphin (Other species), D:252 Spring oats Spy, The Ibook by Cooperl Oats (Growing oats), 0:377 Spotted eagle ray Cooper, James Fenimore, Cl:336 Spring onion Fish picture on, F:161 Onion (The onion plant), 0:452 Spy, So:243 Spotted goatfish Spring tide Espionage, E:329 Fish picture on, F:162 Tide (High tides and low tides), T:242 World War II, W:403 Spotted gum [tree] "Spy satellite" Eucalypts picture on, E:348 Spring-tooth harrow Satellite, Artificial (Military satellites), Harrow, H:69 Spotted hyena S:97 Spring, Dick [Irish politician], So:240 Hyena, H:409 with picture Spy Who Came in from the Cold Spotted jewfish picture on, 1:364 Spring, Howard [British author], So:240 Ibook by Le Carrél Jewfish, J:111 Le Carré, John, L:148 Spring [book by Ba Jin] Spotted owl Spyri, Johanna [Swiss author], So:244 Ba |in, B:2 Animal picture on, A:386 Switzerland (Arts), So:495 Springboard diving [water sport] Spotted pardalote Bird picture on, B:333 Diving (Types of diving), D:206 Squall (weather), So:244 Squamous cell Springbok [animal], So:241 with picture Spotted salamander Epithelium, E:314 Salamander picture on, S:48 Springer spaniel (dog) Squamous cell carcinoma Spaniel picture on, D:227 Spotted sea-trout [fish] Skin (Tumours), 5:470 Drum [fish], D:324 Springfield [U.S.A.], So:241 Squanto [American Indian], So:244 Spotted squeteague Springhare (rodent), So:241 with pic-Square larithmetic) Weakfish, W:108 Multiplication (Multiplication facts), Spouse Springhaven (book by Blackmore) M:694 Family (Family relationships), F:20 Blackmore, R. D., B:380 Power, P:731 Spout Spring's Awakening (play by Wede-Square, So:244 with diagram Whale (Respiratory system), W:208 kindl Square Igeometryl, So:244 with diagram with picture Wedekind, Frank, W:129 Sprague, Frank J. [American inventor] Springsteen, Bruce [American singer], Quadrilateral, Q:4 Electric railway (History), E:163 So:242 with portrait Square [tool] Tool (Woodworking tools), T:296 Sprain (injury), So:239 Springtail [insect] Woodworking (Planning and design), Insect (table), 1:261 Otter (The life of an otter), 0:518 Sprinkler irrigation W:307 Sprat [fish], So:240 Irrigation, I:407 Square [unit of measure] Weights and measures (table: Miscel-Spray gun Sprouting (botany) laneous weights and measures), Airbrush, A:205 Germination, G:141 Paint, P:26 with pictures Spruce [tree], So:242 with pictures W:136 Square dancing, So:244 with picture Spray painting Spruce budworm [insect], So:243 Paint (Applying the paint), P:25 Spruce Goose [flying boat] Folk dancing, F:286 Spray pond Hughes, Howard Robard, H:342 Square deal, So:244 Square measure, So:244 Electric power (Fossil-fuelled steam Spruce grouse Metric system (Surface measureelectric power station), E:158 Grouse, G:386 with picture ments), M:386 with pictures; Sprung rhythm [poetry] Spraying Insecticide, I:264 with picture Hopkins, Gerard Manley, H:276 (table) M:388 Weights and measures (table: Surface Spread foundation Spun soy protein Building construction (Foundations), or areal, W:138 Soybean (Soy meal), So:125 Square metre [unit of measure] Spun yarn Metric system (Surface measure-Spreading dogbane (plant) Textile (Making the yarn), T:172 ments), M:386 with picture Dogbane, D:241 with picture Spur (riding equipment) Spreading the News [play] Crown jewels (Swords and spurs), Square rigger Abbey Theatre, A:5 Clipper ship, Cl:84 Cl:461 Square root [mathematics], So:244 Spreadsheet program Horse (Spurs), H:294 Computer, Personal (Uses of a per-Algebra, A:260 Spur gear sonal computer), Ci:268 Gear (Types of gear), G:68 Root, R:394 Sprightly Running (book by Wain) Spur-thighed tortoise Squash [drink]

Tortoise, T:307

Spurge family [plant], So:243

See also list of Related Articles

England (Food and drink), E:267

Squash [game], So:246 with pictures

Squash [vegetable], So:245 with pic-

Squatter, So:247

Australia (Language), A:751

Peru (Housing), P:310

Squatters in Australia, So:248 with picture

Squatter sovereignty

See Popular sovereignty

Squatters in Australia, So:248 with

pictures and map

Australia, History of Land policy),

A:803

Squatters rights

See Squatter

Squeaker linsect

Cicada (Types of cicadas), Ci:1

Squeeze bottle

Packaging, P:18

Squeteague

Weakfish, W:108

Squid, So:253

Animal (Fins, tails, and flippers), A:398

Antarctica (Animal life), A:440

Mollusc, M:536

Squill [plant], So:253

Squint

See Strabismus

See Knights and knighthood

Squires, Bill [Australian boxer]

Boxing (Boxing in Australia and New Zealand), B:498

Squirrel, So:254 with pictures

Aestivation, A:109

Aniaml picture on, A:386

Ground squirrel, G:384 with pictures

Squirrel monkey, So:256

Srl Lanka, So:256 with pictures and

See also list of Related Articles

Aviation (Aircraft nationality marks),

Banyan tree, B:98 with picture Colombo, Ci:175

Cricket (Cricket in Sri Lanka), Ci:434 Dolphin (Dolphins and people), D:253

Flag picture on, F:206

Srirangapatnam, Storming of, So:259 Srivijaya iformer kingdomi, So:259

Indonesia (Indian influence), 1:193 SS troops [German history]

Hitler, Adolf (Rise of the Nazis), H:229

SST [aeroplane]

Aeroplane (Supersonic aeroplanes),

Aviation (The future of the industry), A:880; (A new age of flight) A:885 St

For entries beginning St see under Saint

Stab kick

Australian Rules football (Kicking), A:851

Stabat Mater (music by Dvořák) Dvořák, Antonín, D:359

Stabat Mater (music by Rossini) Rossini, Gioacchino Antonio, R:404

Stabilator

Aeroplane (The tail assembly), A:92

Stabilizer [food]

Food additive (Kinds of additives),

Ice cream diagram on, I:8 Stabilizer (instrument)

Aeroplane (The tail assembly), A:92

Glider (The tail assembly), G:207 Hydrofoil (Fully submerged hy-

drofoils), H:402

Ship (The hull), S:383

Stable equilibrium [physics] Gravity, Centre of, G:310

Stacking chair

Eames, Charles, E:6

Stadium, So:259

Stadiums Pty. Ltd.

Boxing (Organizations), B:498

Staël, Madame de [French writer], So:259

French literature (The preromantics),

Staff

Music (Notation), M:725

Staff signature

Music diagram on, M:733

Staff writer

Writing, W:421

Staffa [island], So:259

Scotland picture on, S:166

Stafford (England), So:260

Stafford, E. W. [New Zealand farmer]

New Zealand, History of (Wool and gold), N:172

Stafford, Thomas P. [American astronautl

Space exploration (Voskhod and Gemini: The first multiperson space flights), So:148; (The Apollo z Test Project) So:155 with picture

Staffordshire [England], So:260 with

See also list of Related Articles Arms picture on, A:586

Staffordshire bull terrier, So:262 with picture

See also American Staffordshire terrier

Staffordshire Moorlands (England), So:262

Stag See Deer

Stag beetle, So:262

Stag-hunting

Hunting, H:385 with picture

Stagbush

See Black haw

Stage (rocketry)

Space exploration (Space exploration terms), So:130; (Overcoming grav-

ity) So:133

Stage [theatre]

Drama, D:284 with pictures

Film industry (Filming on a sound stage), F:86 with picture

Shakespeare, William, S:306 with pic-

Theatre, T:191 with picture

Stage designer

See Theatre

Stage director

Opera, 0:460

Stage Door [play by Kaufman] Kaufman, George S., K:202

Stage manager

Opera, 0:462

Stage name

Name, N:11

Pseudonym. P:824

Stagecoach, So:262 with picture Colonial life in America picture on,

Cl:182

Stagehand

Opera picture on, 0:461

Staghorn |plant|, So:262

Stahl, Georg Ernst

Chemistry (The phlogiston theory),

C:369

Stain Idyel, So:262

Stain pieces

Wool (Types of wool), W:310

Stained glass, So:263 with pictures Glass (Coloured glass), G:191; picture

on G:200

Window, W:271

Stainless steel, So:265

Alloy (Alloys of Iron), A:278

Chromium, C:497 iron and steel, 1:387

Manganese (Uses), M:152

Stair-step moss Moss, M:636

Stake money

Horse racing (Betting), H:308

Stalactite, So:265 with picture

Cave (Speleothems), C:285 with diagram

Stalagmite, So:266

Travertine, T:368

Stalagmite, So:266 with picture Cave (Speleothems), C:285 with dia-

gram

Stalactite, So:265

Travertine, T:368

Stalin, Joseph (Russian political leader), So:266 with portrait

Churchiil, Sir Winston Leonard Spencer (Meetings with Roosevelt),

C:509 with picture Cold War (Beginnings of the Cold

War), Cl:160 Communism (Under Stalin), Cl:241

with portrait

Dictatorship, D:163 Khrushchev, Nikita Sergeyevich (Rise

as a Communisti, K:242

Lenin, V. I. (Death), L:173 Polithuro, P:647

Potsdam Conference, P:721

Roosevelt, Franklin Delano (The Big

Three), R:390

Russia, R:491 with picture

Trotsky, Leon, T:417

Truman, Harry S. (First administration), T:427

Union of Soviet Socialist Republics

(Stalin gains power), U:33; (Stalin's policies) U:33; (The rise of Khrushchev) U:34 with picture

646 Stalinabad

Standard [flag]

Flag, F:198; (Historical flags of the

world) F:210; (Flags of individu-Stanhope, Philip D. World War II (The Allies attack in Europe and Northern Africal, See Chesterfield, Earl of als) F:212 with pictures, (Flag Stanislas, Saint, So:277 W:388 with picture terms) F:213 Stanislavski, Konstantin Russian stage Standard deviation Yalta Conference, Y:438 directorl, So:277 Stalinahad Statistics (Probability), So:303 Stanley and Livingstone [British ex-See Dushanbe Standard fire test Building construction (Classification of plorers), So:277 Stalingrad Emin Pasha, E:281 See Volgograd buildings), B:628 Ruwenzori Range, R:506 Stalingrad, Battle of, So:270 Standard gauge Stanley brothers [American inventors], World War II (The Soviet advance), Railway (The rails and sleepers), R:101 Standard housing W:394 So:278 Stalino (city) Housing, H:328 Stanley steamer Car (History of the car) picture on, Standard Industrial Classification See Donetsk Stalk-cutting Tobacco (Harvesting tobacco), T:270 Industry (How industries are classi-Stanley brothers, So:278 Stalky and Co. [book by Kipling] fied), 1:224 Stanley, Francis Edgar [American in-Kipling, Rudyard (His life), K:286 Standard line ventor), So:278 Stall Map (Map projections), M:187 Stanley, Freelan Oscar |American In-Horse (Care of a horse), H:298 Standard mark ventor!, So:278 Hallmark, H:24 Stanley, Sir Henry Morton (British ex-Aeroplane, A:99 Standard of living, So:274 plored Stalling speed Exploration (table), E:425; (The interior Conservation (To meet demands for Aeroplane (Measuring flying speed), resources). Ch:293 of Africa) E:425 with picture A(99 Economics (Important terms in eco-Lake Edward, L:22 Stallion nomics), E:65 Stanley and Livingstone, So:277 with Donkey, D:266 Economics (Measuring economic picture and map Horse (Horse terms), H:286 growth), E:61 Zaire (The coming of the Europeans), Stamen Food (Economic reasons), F:296 Z:485 Flower, F:261 with diagram Food supply (The effect of higher liv-Stannous fluoride Grass (The grass plant), G:301 ing standards), F:313 Tin (Uses), T:258 Orchid (Parts of orchids), 0:489 Technology (Higher living standards), Stanthorpe [Australia], So:278 Pollen, P:655 T:86 Stanton Drew [England] Seed (Seed development in anglos-Trade (Trade and specialization), T:324 Avon (Places to visit), A:892 perms), S:236 Standard Oil Company, So:275 Stanza della Segnatura (Vatican) Stamford [England] Rockefeller, John Davison, R:315 Raphael, R:139 Lincolnshire (Places to visit), L:288 Standard point Stapedectomy Stamford Bridge, Battle of, So:270 Map (Map projections), M:187 Deafness (Medical treatment), D:56 Harold III, H:64 Standard schnauzer [dog], So:276 with Stapes (anatomy) Staminate Ear (The middle ear), E:7 with diagram; picture Hemp. H:145 Standard time, So:276 (Diseases) E:12 Stammering Time (Local and standard time), T:257 Stapes mobilization See Stuttering Standard, Battle of the (English his-Deafness (Medical treatment), D:56 tory], So:274 Staphylococcus aureus See Post office; Stamp collecting; Standardized test Osteomyelitis, 0:513 Trading stamps Psychology (Systematic assessment), Penicillin (History), P:259 Stamp Act, So:270 Staphylococcus, So:278 with picture P:828 with picture American Revolution, A:324 Testing, T:163 Boil, B:421 United States, History of the (British Standing army Food poisoning, F:305 policy changes), U:240 with pic-United Kingdom, Armed services of Impetigo, 1:46 Pneumonia (How pneumonia develthe (History), U:79 Stamp collecting, So:270 with pictures Standing committee ops), P:607 Stamp duty, 50:274 Parliamentary procedure (Commit-Toxic shock syndrome, T:320 Stamp weed tees), P:195 Staple itextiles Velvetleaf, V:326 with picture Standing wave [physics] Fibre, F:66 Linear accelerator, L:291 Textile (Sources of textile fibres), Record player (Preparing the record T:169; (Making the yarn) T:172 Seiche, S:240 moulds), R:165 Sound (Resonance), So:51 Thread, T:229 Stapledon, Olaf [British author], So:278 Stance Wayes, W:105 with diagram Boxing (Attacking boxing skills), B:496 Science fiction (The 1900's), S:151 Standish, Miles [America colonist], with picture So:276 Star, So:279 with pictures Stand, The book by Kingl See also list of Related Articles Standup surfing Astronomy, A:690 (The nighttime sky) King, Stephen, K:255 Surfing, So:435 Standard & Poor's Indexes Istatistics!, A:686 with diagrams, (Why the Stane Street So:274 stars seem to move) A:688 Roman roads, R:347 Standard Stanford, Sir Charles Villiers Ilrish Astrophysics, A:701 Consumerism (The right to safety), Constellation, Ci:307 with picture composer], So:276 Cf:313 Stanhope, Earl of (English nobleman) Dark matter, D:35

Printing (New presses and typecasting

machines), P:787

Fixed star, F:197

Hogg, Helen Sawyer, H:242

Light (Other sources of light), L:257 Magnetism (The magnetism of other astronomical bodies), M:57

Magnitude, M:60

Rigel, R:276

Space exploration (Space between the stars), So:130

Navigation, guidance and control, So:138

Sun (The sun as a star), So:413

Time (Measuring time by the stars),

Star [entertainer]

Film industry (Films become big business), F:100

Star anise

lilicium, 1:31

Star Chamber [law], So:292

Long Parliament, L:378

Star cloud [astronomy]

Star. So:282

Star cluster [astronomy]

Star, So:282: (The birth and death of a star) So:287

Star is Born, A [film]

Cukor, George, Cl:488

Star maps

Astronomy pictures on, A:686

Hipparchus, H:217

Star of Africa

Coronation (The British coronation), Cl:362

Gem (Some famous gems), G:73

Star-of-Bethlehem (plant), So:292 with

Star of David, So:292 with diagram Judaism picture on, J:155

Star orchid

Orchid picture on, O:490

Star shell

Fireworks (Other uses of fireworks),

F:140

Star Wars See Strategic Defense Initiative

Star Wars [film]

Film industry (Changes in Hollywood), F:106 with picture

Lucas, George, L:410

Science fiction (Science fiction today),

Starch, So:292

Maize (Food for people), M:71 Polymer, P:661

Starfish [sea animal], So:293 with pic-

Animal picture on, A:394 Echinoderm picture on, E:52

Stark, Johannes (German physicist), So:294

Starkey, Richard

See Beatles

Starlight, Captain [literary figure],

Starling, So:294 with picture

Starman Jones [book by Heinlein] Heinlein, Robert A., H:135

Starr, Belle (American outlaw), So:295 with portrait

Starr, Ringo [British musician]

Beatles, B:174

Rock music (The Beatles), R:312 with picture

Stars & Stripes (boat)

America's Cup, A:331

Stars Look Down, The book by Cronin)

Cronin, A. J., Ci:452

"Star-Spangled Banner" lanthem), So:292

Baltimore (History), B:69

Starter

Horse racing (The start), H:308

Starter [engine], So:295

Starter culture

Buttermilk, B:691

Cheese (Separating the curd), C:362

Starting Point [work by Day-Lewis] Day-Lewis, Cecil, D:52

Starting price

Horse racing (Betting), H:308

Startle reflex (physiology) Baby (The first month), B:6

Starvation, So:296

State and Territory government

Australia, Government of, A:791

Communism (The party state), Ci:240 Indian, American (Empires and states),

1:145

State court

Australia, Legal system of, A:827 State farm

Czechoslovakia (Communist rule), Cl:524

Europe (Country life), E:365

State Historical Museum [Moscow] Russia (Museums and libraries), R:472

State judge

Australia, Legal system of, A:829

State of the Prisons in England and Wales, The istudy by Howard

Howard, John, H:333

State, Department of, So:296

Statelessness

Citizenship, Ci:16

Stately homes of Britain and Ireland,

So:297 with pictures

See also Architecture; Castle; National Truct

Statement [mathematics]

Algebra, A:252

Staten Island, So:301 with picture

New York City, N:146

States and Empires of the Sun, The [book by Cyrano de Bergerac]

Cyrano de Bergerac, Savinien de, Ci:515

Statesman, So:301

Statesman's Year-Book, The

Almanac, A:280

Static arts

Fine arts, F:110

Static, So:301

Electricity (Static electricity), E:167

Statice [plant], So:301 with picture

Statics [physics], So:301

Mechanics, M:303 Physics (Mechanics), P:473 Station-to-station calls

Telephone (Long-distance calls), T:108

Stationery Office, So:302

Hansard, H:56

London Gazette, L:376

Stations (farms), So:302

Australia (Language), A:751

Stations of the Cross [sculpture by Gill]

Gill, Eric, G:160

Statistics, So:302

See also list of Related Articles

Mathematics (Branches of mathematics), M:256

Pearson, Karl, P:237

Science (Mathematics and logic), S:139

Statistics, Vital

Vital statistics, V:409

Stator

Electric generator (Parts of a generator), E:148

Electric motor (Parts of an alternating current (AC) motor), E:156

Electric power (Sources of electric power), E:157

Statue

Sculpture, S:186 with pictures

Statue of a seated boxer

Sculpture (Hellenistic sculpture), S:206 with picture

Statue of Liberty, So:304 with picture See also list of Related Articles

United States picture on, U:182 Statuette of a dancer

Sculpture (Indus Valley), S:196 with picture

Status

Sociology (Social behaviour), So:12 Women's movement (Women's status

through the ages), W:293

Statute [law]

Code, Ci:146

Law (Civil-law systems), L:111 Statute of Charitable Uses

Philanthropy, P:364

Statute of limitations, So:306

Debt (Time limits on collection of debts). D:63

Statute of Westminster, So:307

Canada, History of (Independence),

Commonwealth of Nations (History), C:228

South Africa, History of (The Pact government), So:84

Statutory law Code, Ci:146

Lien. L:244

Staunton Harold (England) Leicestershire (Places to visit), L:159

Stay of execution

Reprieve, R:223

Stead, Christina [Australian novelist], So:307 Stead, William Thomas [British editor],

Sp:307 Steady state theory

Cosmology, Ci:372

Universe (Cosmological theories),

U:265

Cooking, Ci:335

Industrial Revolution picture on, I:218

Steamship

Steak and kidney ple Navy (Engineering advances), N:60 So:312 with picture England (Food and drink), E:267 Ship (Sailing ships in the 1900's), S:371; Steinhok Steak (The age of engine red ships) See Steenbok See Beef: Meat S:371 with pictures Steinem, Gloria (American writer), Steam. So:307 Steamboat, So:309 So:313 with portrait See also list of Related Articles Warship (Warships of the 1800's), Steiner House [Vienna] Boiler, B:422 WHE Architecture (Early modern architec-Energy supply (Geothermal power), Stearic acid, So:310 ture in Europe), A:532 with pic-E:249 Fat (Structure), F:34 ture Nuclear energy (Steam production), Lard, L:65 Steinheim man N:325 Stepitle Swanscombe man, So:456 Water (Vapour), W:82 Soapstone, So:1 Steinmetz, Charles Proteus (German-Steam age Steel born mathematicianl, So:313 with Transportation, T:354 with pictures See Iron and steel Steam bath Steinway, Henry Engelhard (German-Steel band, So:310 Bath (Bathing for cleanliness), B:149 Calypso, C:45 born piano makerl, So:313 Steam cracking Music, picture on M:725 Piano (History), P:483 Petrochemicals (How petrochemicals Trinidad and Tobago (Culture), T:405 Stele are made), P:329 West Indies (Arts), W:167 with picture Root (The core), R:393 Steam distillation Steel City Stele Imonumenti Eucalyptus oil. E:351 Gary, **G:47** Maya (Communication and learning), Perfume (Plant substances), P:282 Steel forging Steam engine, So:307 with pictures Forging picture on, F:361 Sculpture (As monuments and and diagrams Steel wire gauge memorials), S:188; (Indian sculp-See also list of Related Articles Wire (Sizes of wire), W:277 ture of the Americas) S:205; pic-Engine, E:253 Steel, Sir David (British politician), ture on S:194 Industrial Revolution, 1:213 Stele of Ur-Nammu invention (The Industrial Revolution), Steele, Sir Richard (English author), Sculpture picture on, S:194 1:317; picture on 1:315 So:310 Stella, Frank [American artist], So:314 Newcomen, Thomas, N:178 Addison, Joseph, A:35 with picture Ship (The age of engine-powered Drama (England), D:294 Painting (Minimal art), P:88 with picships), S:371 Essay (Personal essays), E:330 ture Transportation (The steam age), T:354 Steelhead Stellar Interferometer Watt, James, W:101 with picture Trout, T:419 Interferometer, I:281 Steam fog (weather) Steen, Jan [Dutch painter], So:310 with Stellenbosch (South Africal, So:314 Fog, F:284 Steller's sea cow Steam hammer, So:309 Steenbok (animal), So:310 with picture Animai (Hunting), A:413 Forging (Forging hammers), F:361 Antelope (Habits and appearance), Sea cow, S:221 with picture Nasmyth, James, N:27 A:448 Steller's sea eagle (bird) Steam heating Steeplechasing, So:311 with picture Eagle (Other kinds of eagle), E:5 with Heating (Steam and hot-water heating Athletics, A:710 with picture picture systems), H:127 with diagram Steer Stellite Steam-Jet refrigeration See Cattle Alloy (Other alloys), A:278 Refrigeration, R:185 Steer roping Haynes, Elwood, H:91 Steam locomotive Stem [botany], So:314 with pictures and Rodeo, R:330 Locomotive, L:355 with pictures Steer wrestling diagrams Railway, Model, R:114 Rodeo, R:330 See also list of Related Articles Steam turbine Steer, Philip Wilson [British painter], Grafting, G:282 Coal (Electric power production), So:311 Plant, P:554 with picture Ci:121 Stegosaurus Stem [music] Heat (Changing heat into motion), Dinosaur (Stegosaurs), D:178, D:180; Music (Indicating time values), M:732 H:120 pictures on D:175 with pictures Invention (The Industrial Revolution), Steichen, Edward (American photogra-Stem [ship] 1:317 pherl, So:311 with picture Ship (table), S:363 with diagram Parsons, Sir Charles, P:203 Photography (The photographic revo-Stem cell Steam engine, So:308; (Modern steam Blood (Formation of new blood comlution), P:463 engines) So:309 Stein, Gertrude (American author), ponents), **B:398** Turbine, T:449 with diagrams So:312 with portrait Stendhal [French author], So:316 Steamboat, So:309 with picture American literature (The lost genera-French literature (Romantic fiction), See also list of Related Articles tion), A:317 F:44B Ship (The age of engine-powered Thomson, Virgil, T:225 Novel (France), N:312 ships), \$:371 Stein, Sir Aurel [Romanian-born orien-Steno, Nicolaus (Danish physician) Turbine (Steam), T:447 talist| So:312 Geology (The Renaissance), G:92 Steamer duck [bird] Mineral (The scientific study of min-Steinbeck, John [American author], Duck, D:338 So:312 with portrait eral crystals), M:488 Steaming American literature (Realist fiction),

A:318

Dust Bowl. D:357

Steinberg, Saul [Romanian-born artist],

Stenography

Stenosis

Shorthand, S:394

Shorthand machine, S:396

Heart (Valvular disease), H:108 Step-down transformer Electric generator (Use of AC generators), E:148 Electric power (Distribution), E:160 Step pyramid Egypt, Ancient (The Old Kingdom), E:128; picture on E:126 Pyramids (The first pyramids), P:873 with picture Step-up transformer Electric generator (Use of AC generators), E:148 Electric power (Transmission), E:160 Stepbrother Family (Family relationships), F:20 Stepchild Family (Family relationships), F:20 Stepfather Family (Family relationships), F:20 Stephen (king of England), So:316 England (Struggles for power), E:275 Stephen I [king of Hungary] Hungary (The Kingdom of Hungary), H:381 Stephen II (pope) Pepin the Short, P:269 Stephen, Saint, So:317 Stephen, Sir Leslie (British biographer), So:317 Stephen, Sir Ninian [Australian judge], So:317 Stephens, A. G. [Australian writer] Australia, Literature of (The Middle Period), A:831 Stephens, James [Irish author], So:317 Stephens, James Burton (Australian writer Australia, Literature of (Other poetry), A:831 Stephenson, George [British engineer], So:317 Rocket [locomotive], R:325 Locomotive (History), L:355 Railway (The railway age begins), R:109 Stephenson, Robert (British engineer), So:317 Rocket (locomotive), R:325 Locomotive (History), 1:355 Railway (The railway age begins), R:109 Stephenson, Tom (British journalist)

Pennine Hills, P:262

Stepmother

Steppe, So:317

Ukraine, U:4

^{Ste}ppe eagle (bird)

Grassland, G:306

with picture

Russia (Land regions), **R:475**

Eagle (Other kinds of eagle), E:5

religious leader], So:317

Stepinac, Aloysius Cardinal (Yugoslav Yugoslavia (Communist rule), Y:474 Family (Family relationships), F:20 Kazakhstan (Land and climate), K:205 Moldova (Land and climate), M:528 Prairie (Climate and soil), P:737

Allergy (Diagnosis and treatment), Stepped pulley Record player (The drive system), Drug abuse (Abuse of legal drugs), R:163 D:318 Steps to Immaturity [book by Potter] Hormone (How hormones work), Potter, Stephen, P:722 H:279 Stepsister Family (Family relationships), F:20 Life (Lipids), L:249 Lipid (Complex lipids), L:302 Sterbini, Cesare (Italian librettist) Testosterone, T:165 Opera (Barber of Seville, The), O:467 Sterol Stereo camera Vitamin (Vitamin D), V:411 Camera, C:58 Stethoscope, So:320 with picture Stereochemistry Heart (Regulating the heart rate), H:103 Chemistry (Development of physical Laënnec, René Théophile Hyacinthe, chemistry), C:371 L:12 Science (Chemistry), S:140 Medicine, M:307 Stereophonic sound Stetson, John Batterson [American High-fidelity system, H:196 businessman), So:320 Radio, R:80 Stettin (Poland) Record player picture on, R:164 See Szczecin Sound (Using sound), So:53 Steuben glass Stereoscope, So:318 Glass (Types of art glass), G:199 with Camera (Stereo cameras), C:58 picture Stereoscopic binocular microscope Steuben, Baron von (Prussian soldier), Police laboratory (Analysing the evidence), P:644 So:320 Stevenage (England), So:320 Stereoscopic rangefinder Stevens, Wallace American poetl, Rangefinder, R:135 50:321 Stereoscopic vision Stevenson, Adiai Ewing [American po-Binoculars, B:297 litical leader), So:321 Eye (Depth perception), E:439 Eisenhower, Dwight David (Political Primate (Physical characteristics), career), E:133 Stevenson, Elizabeth Cleghorn [Brit-Stereotype ish authorl Races, Human (Race and discrimina-Gaskell, Elizabeth, G:60 tion), R:49 Stevenson, Robert iScottish civil engi-Stereotyping, So:318 neer], So:321 Sterility, So:318 Stevenson, Robert Louis (Scottish au-Hybrid (Producing hybrids), H:393 thor). So:321 with pictures Infertility, 1:228 Scotland (Arts), S:162 Insect (Biological control), I:246 Scottish literature (1800-1900), S:176 Sterilization [hygiene], So:318 Steward Ultraviolet rays (Uses of ultraviolet Horse racing (The start), H:308 rays), U:19 Stewart, Douglas (Australian dramatist), Sterilization [surgery] So:323 with portrait Birth control (Methods of birth con-Australia, Literature of (Modern short trol), B:367 stories), A:832 Laparoscopy, L:61 Stewart, Harold [Australian poet] Sterkfontein Caves [South Africa], Em Mailey, E:321 So:319 Stewart, Jackie (British racing driver), Sterling So:323 See Pound imoney Car racing (table), C:180 Stern, Irma [South African painter], Stewart, James [American film actor], So:319 So:324 with portrait Stern, Isaac [American violinist], So:319 Film industry (Best performance by an Sterne, Laurence [British author], actor), F:96 So:319 Stewart, Robert Novel (The first English novelists), See Castlereagh, Viscount N:312 Stewart Island [New Zealand], So:324 Sternocleidomastoid (anatomy) Stewartry [Scotland], So:324 Head diagram on, H:93 Steyn, Marthinus Theunis (Orange Throat, T:230 Free State statesmanl, So:324 Sternpost rudder Stheno Invention (Middle Ages), 1:315 Gorgons, G:258 Sternum Stibium [element] Collarbone, Cl:164 Antimony, A:461 Rib, R:259 with diagram Stibnite

Skeleton (The axial skeleton), S:460

with diagram

Steroid, So:319

Antimony, A:461

Mineral picture on, M:484

Stick insect, So:324 with pictures Animal picture on, A:387 Insect picture on, I:240 Stickleback [fish], So:324 with picture Animal (Providing protection), A:408 Instinct, I:265 Stiegel glass Glass (Types of art glass), G:199 Stieglitz, Alfred [American photographerl, So:325 with picture Dove, Arthur Garfield, D:274 O'Keeffe, Georgia, 0:422 Photography (The photographic revolution), P:463 with picture Steichen, Edward, So:311 Stiff-mud process Brick, B:557 Stiff-talled duck [bird] Duck, D:339 with picture Stigma [botany] Pollen (Fertilization), P:656 with dia-Seed (Seed development in angiosperms), S:236 Stigma (zoology) Egg (Development of a bird's egg), E:98 Stiletto Knife, K:297 Still [liquor] Distilling, D:202 Still, Andrew Taylor (American medical practioner

Osteopathic medicine (History), 0:514 Still Digging [book by Wheeler]

Wheeler, Sir Mortimer, W:227 Still life Painting, P:35 Still photography

Photography, P:440 Still She Wished for Company (book by Irwin] Irwin, Margaret, I:410

Stilt [bird], So:325 with picture Stilwell Road (Burma/China)

Burma Road, B:662 India, History of (World War II), 1:117

Edison, Thomas Alva (Family and friends), E:81

Stimulant, So:325

Stilwell, Mary [wife of]

Cocaine (Physical and psychological effects), Ci:139 Drug. D:313

Stimulated emission

Laser (The nature of atoms), L:72

Stimulus Animal (Adaptations for sensing the environment), A:401

Instinct (How instinctive behaviour works), 1:266

Stimulus-response (psychology) Behaviour (Behaviourism), B:202 Education (How people learn), E:89 Learning (Classical conditioning), L:137 Psychology (Modern psychology),

P:830 Sting

Bee, B:186 with pictures

First aid (Animal bites or stings), F:144 Hornet, H:283 Wasp, W:63

Sting ray [sea animal] See Stingray

Stinging nettle Nettle, N:101 with picture

Stingless bee Bee, B:189 with picture Stingray [fish], So:326 with picture

Animal picture on, A:395 Stink bug [insect], So:326 with picture

Soybean (Diseases and pests), So:126 Stinking hellebore Hellebore, H:144

Stipe

Fern (Parts of a fern), F:55 Stirling (Scotland), So:326 **Stirling Castle**

Castle picture on, C:236 Stirling engine, So:327 with diagrams

Stirling, James [British sea captain], So:326 with portrait Perth, P:302

Western Australia (European colonization), W:182

Stirling, Robert Stirling engine, So:327 Stirlingshire, So:327 Central Region, C:321

Invention (Middle Ages), 1:315 Saddle, S:7

Stitch Crocheting, Cl:446 with diagrams

Embroidery (Embroidery stitches), E:226 with diagrams Knitting, K:304 with diagrams Needlepoint, N:67 with diagrams

Petit point, P:326 with picture Sewing (Kinds of stitches), \$:285 with diagrams

Sewing machine diagrams on, S:288 Stitching [industrial process] Tyre (Assembling a tyre), T:490

Stivens, Dal [Australian author], So:327 Australia, Literature of (Modern short stories), A:832

Stoat [animal], So:328 with pictures Stock [botany], So:328 with picture Grafting, G:282 with pictures

Plant (Grafting), P:559 with diagram Stock [clothing] Necktie, N:65

Stock (gun)

Rifle (The parts of a rifle), R:274 Stock car racing

Car racing, C:181 Stock dyeing

Dye (Dyeing textile materials), D:362 Stock exchange, So:328 with pictures See also list of Related Articles

England picture on, E:272 Stock insurance company Insurance (Types of insurance com-

pany), 1:275 Stock market Great Depression (The stock market

crash), G:317 Investment, 1:323 Stock exchange, So:328 Stock ticker, So:331

Edison, Thomas Alva (Telegraph innovator), E:81

Stocker cattle

Ranching (Life on a cattle ranch), R:133 Stockham, Thomas G., Jr. (American

electrical engineer] Record player (History), R:166 Stockhausen, Karlheinz [German com-

poser), So:331 Stockholm [Sweden], So:331 with pic-

Sweden, So:460 with picture Stockings [clothing], So:332

Clothing (The Renaissance), Cl:102; (The 1900's) Ci:105

Stockport [England], So:332 Stocks (punishment), So:332

Pillory picture on, P:501 Stocks and shares, So:332

Stockton-on-Tees [England], So:333

Stoic philosophy, \$0:333 Ethics (Greek and Roman), E:336 Hellenistic Age, H:144

Marcus Aurelius, M:202 Philosophy, P:424

Stoke-on-Trent [England], So:333 Staffordshire (Manufacturing), So:260

Stoker, Bram (English author), So:333 Dracula, D:278

Stokes, Carl Burton (American politicianl. So:333 Stokes, George G. [British physicist]

Fluorescence, F:273 Stokesay Castle [England]

Shropshire (Places to visit), \$:403

Stokowski, Leopold British-born conductor, So:333 STOL

See V/STOL

Stolon

Fungi (Parts of a fungus), F:485 Grass (The grass plant), G:301 with plcture

Liquorice, L:306 Mould, M:653

Stomach [anatomy], So:333 with dia-See also list of Related Articles

Digestive system (From mouth to stomach), D:171 with diagrams

Fish (Digestive system), F:169

Frog diagram on, F:465 Gland (table), G:183; diagram on G:181

Goat (Digestive system), G:222 Human body (The mouth, oesophagus,

and stomach), H:354 Insect (Digestive system), I:251 with di-

agram Physiology, P:481

Prostaglandin, P:811 Reptile (Internal organs), R:231 Spider (Digestive system), So:220; diagram on So:219

Stomach cancer Cancer, C:119

Story of My Life, The Ibaok by Keller Aberration, A:11 Stomach poison American literature (Nonfiction writ-Stop motion Insecticide, I:263 ers), A:316 Animation (Puppet animation), A:420 Stomachache Keller, Helen Adams (She helps oth-Stopes, Marie Carmichael [British sci-See Indigestion ers), K:212 entist], So:336 Stomata Story of My Misfortunes, The Ibook Leaf (Obtaining the raw materials), Stoplight parrotfish by Abelard) Fish picture on, F:162 L:130 with diagram Abelard, Peter, A:9 Stoppard, Tom [British playwright], Plant (Leaves), P:554 Story of the Red Cross, A book by So:336 Respiration (Respiration in plants), Barton] Stopping by Woods on a Snowy Eve-Barton, Clara, B:122 ning" [poem by Frost] Transpiration, T:345 Storyboard American literature (Realist poetry), Animation (Kinds of animation), A:418 A:317 House (Traditional materials), H:323 with picture Storage battery Plastics (To replace wood and stone), Storytelling, So:339 with pictures Battery (Kinds of batteries), B:154 P:578 Anderson, Hans Christian picture on, Edison, Thomas Alva (Inventor-Quarrying, Q:7 A:353 industrialist of West Orange), E:81 Rock, R:307 Homer (The Homeric question today), Lead (Uses), L:124 with picture Stone Age, So:334 H:255 Store Clothing, Cl:88 Clothing (Ready-to-wear clothes), Humour, H:371 Lake dwelling, L:22 Stoss, Velt [German sculptor], So:341 Ch:107 with picture Prehistoric people (The first human with picture Cooperative (Supply, or purchasing, beings), P:751 Stourbridge [England] cooperatives), Ci:337 Sculpture (The first sculptors), S:192 Dudley, D:339 Department store, D:122 with picture Surgery (History), So:439 Stout |drink| Interior decoration picture on, 1:282 Stone marten Reer. B:193 Retailing, R:244 Marten, M:230 Ireland (Food and drink), 1:355 Shopping centre, \$:392 with picture Stone masonry dam See also Beer Supermarket, So:428 Dam (Kinds of dams), D:12 Stout, Rex Todhunter [American au-Stories of Bernard Malamud, The Stone of Destiny thorl. So:341 (book by Malamud) Scone, Stone of, S:154 Stove Malamud, Bernard, M:77 Stone of Scone See Range (cooking) Stories of Liam O'Flaherty, The book Edward I, E:93 Stove naphtha by O'Flahertyl Scone, Stone of, S:154 Petrol (History), P:331 O'Flaherty, Liam, 0:416 Stone Wall, The [work by Williamson] Stow, Randolph [Australian author], Stork [bird], So:337 with pictures Williamson, Malcolm, W:259 So:341 Bird picture on, B:321 Stone, Louis [Australian writer] Australia, Literature of (Modern nov-Stork [work by Williamson] Australia, Literature of (Novels), A:832 els), A:832 Williamson, David, W:258 Stone, Edward Durell (American archi-Stowe, Harriet Beecher (American au-Storm, The iplay by Chekhov tectl. So:334 thorl, So:341 with portrait Drama (Russian drama and Chekhov), Stonechat Ibirdl, So:335 with picture American literature (The sentimental Stonecrop D:298 novel), A:311 Russian literature (Early realism), R:499 Sedum, S:234 with picture Uncle Tom's Cabin, U:21 Storm and Stress movement Stonefish, So:335 Strabane [Northern Ireland], So:342 German literature, G:108 Fish picture on, F:159 Strabismus, So:342 Herder, Johann Gottfried von, H:164 Stonefly, So:335 with picture Eye, E:441 Storm, So:337 with picture Insect (table), 1:261 Glasses (Prescription glasses), G:202 See also list of Related Articles Stonehenge [England], So:335 with pic-Strabo [Greek geographer], So:342 Weather, W:116 with pictures Geography (Beginnings), G:89 Storm Boy [book by Thiele] Astronomy (History), A:697 Geology (The ancient Greeks), G:91 Thiele, Colin, T:219 Druids, D:324 Science (Ancient Rome), S:144 Storm Over Taos [painting by Marin] Megalithic monuments, M:324 Strachey, Lytton [British biographer], Marin, John, M:208 Observatory (History), O:382 So:342 Storm surge Wiltshire (Local customs and legend), Biography (Modern biography), B:302 Hurricane (Destructive power), H:388 W:263; (Places to visit) So:265 Stradbroke Dreamtime | poetry by Tidal wave, T:240 Stonehenge [work by Flinders] Walkerl Storm warning flags pictures on, F:215 Petrie, Sir Flinders, P:328 Stormont Parliament, So:338 with pic-Walker, Kath, W:22 Stones of Venice, The book by Ruskinl Straddle Ruskin, John, R:460 High jump, H:196 Stonewall Jackson Stormy petrel Stradivari, Antonio Iltalian instrument Petrel, P:327 See Jackson, Stonewall makerl, So:342 with picture Stornoway [Scotland], So:338 Stoneware, So:336 with pictures Violin (History), V:399 Storting (government) Pottery, P:722 Strafford, Earl of (English statesman), Norway (National government), N:292 Stoney, G. Johnstone (Irish physicist) So:342 Story Bridge [Australia], So:339 Electricity (Electrons and electricity), Straight dynamite Story of a Novel, The book by Wolfel Dynamite (Kinds of dynamite), D:365 Wolfe, Thomas Clayton, W:287 Stop bath Straight-edged razor Story of Christy Brown, The lbook by Photography (Developing black-and-Razor, R:148 with picture white film), P:452

Brown, Christy, B:592

Stop [photography]

Straight gelatin

Dynamite (Kinds of dynamite), D:365
Straight goods fertilizer

Fertilizer (Production and sale), F:60

Straight photography

Adams, Ansel, A:30

Photography (The photographic revolution), P:463

Weston, Edward, W:197

Straight-run products

Petroleum (Fractional distillation), P:348

Straight Time [film]

Hoffman, Dustin, H:240

Strain iphysics)

Elasticity, E:136

Strength of materials (How materials react to force), So:353

Strait [geography], So:343

Strait is the Gate [book by Gide] Gide, André, G:156

Strait of ...

Straits appear under their key words as in Magellan, Strait of

Straits Settlements, So:343

Malaysia, History of, M:101

Strand casting

Iron and steel, I:395

Strand, Paul (American photographer), So:343 with picture

Photography (The photographic revolution), P:463

Strange Case of Dr. Jekyll and Mr. Hyde, The (book by Stevenson) Stevenson, Robert Louis (Stevenson's

writings), So:322

Strange farmers Gambia (People), G:21

Strange Interlude (play by O'Neill)
O'Neill, Eugene Gladstone, 0:452

Strange particle

Particle physics (Quarks), P:206

Strange Ride of Rudyard Kipling, The [work by Wilson]

Wilson, Sir Angus, W:261

Stranger, The [work by Camus] Camus, Albert, C:69

Stranger in a Strange Land (book by Heinlein)

Heinlein, Robert A., H:135

Strangles (disease)

Distemper, D:202

Strasbourg (France), So:343 with picture

Strassmann, Fritz (German chemist), So:344

Fermi, Enrico F., F:54

Nuclear energy (The first artificially created fission reaction), N:329

Physics (Uncovering the secrets of the atom), P:478

Uranium (History of the uses of uranium), U:276

Strategic Arms Limitation Talks (SALT), Sp:344

Cold War (The Cold War continued), Ci:160

Disarmament (History), **D:186**Nuclear weapon (Limiting numbers),

Strategic Arms Reduction Treaty (START), So:344

Bush, George (Foreign affairs), B:669 Disarmament (History), D:186

Strategic Defense Initiative (SDI), So:344 with diagram

Disarmament (History), D:186
Space exploration (Expanding space

activities), So:162

Strategic nuclear weapon Nuclear weapon, N:338

Strategic Services, Office of (OSS), So:344

Stratemeyer, Edward (American author). So:345

Stratford-on-Avon llocal government district, Englandi, So:345

Stratford-upon-Avon (town, England), So:345 with picture

Shakespeare, William (His life in Stratford), 5:300 with pictures

Theorem (United Vinedom), T-207

Theatre (United Kingdom), T:205 Warwickshire (Places to visit), W:49

Strath, So:345

Strathardle [ship]

Ship (Multipurpose ship), S:380

Strathclyde Region [Scotland], So:345 with pictures and map

See also list of Related Articles Arms picture on, A:589

Strathkelvin (Scotland), So:348 Strathspey

See Badenoch and Strathspey

Stratified charge engine Car. C:175

Stratified rock, So:348 Stratigraphic trap

Petroleum (How petroleum was formed), P:339 with diagram

Stratigraphy

Archaeology (What archaeologists study), A:500

Geology (table), G:92

Stratosphere, So:348

Air (Structure of the atmosphere), A:186

Balloon (Manned exploration of the stratosphere), B:64 with picture

Fallout (How fallout is distributed),
F:17

jet stream, J:107

Stratton, Charles Sherwood [American midget], So:348 with portrait

Stratum (geology)
Archaeology (What ar

So:349

Archaeology (What archaeologists study), A:500

Earth (History of the earth), E:25 with picture

Fossil (Tracing the development of life), F:369 with picture

Rock (Sedimentary rock), R:308 Straus, Oscar (Austrian composer),

Strauss, Johann, Jr. (Austrian composer), So:349

Strauss, Johann, Sr. (Austrian composer), So:349

Strauss, Levi [American businessman], So:349 Strauss, Richard [German composer], So:349 with portrait

Classical music (The romantic era),

Eulenspiegel, Till, E:353

Opera (Richard Strauss), **0:465**; (Salome) **0:473** (Der Rosenkavalier)

Stravinsky, Igor (Russian-born composer), So:350 with portrait Ballet (Original music), B:53

Classical music (The 1900's), Cli62 with picture
Dancing (Dancing since 1900), Di28

Straw, So:350

Rice (Other uses), R:262

Rye (Uses), R:509

Straw Dogs [film]

Hoffman, Dustin, H:240

Straw Hat Revue, The [play] Kaye, Danny, K:204

Strawberry [plant], So:351 with picture

Strawberry clover Clover, Cl:114 with picture

Strawflower (plant), So:351 with picture Strayhorn, Billy (American musician) Eilington, Duke, E:216

Streak plate

Rock (Collecting rocks), R:309

Stream

River (The source of a river), R:289

Stream of consciousness

American literature (Nonfiction writers), A:316

Irish literature (James Joyce), 1:363 Joyce, James, J:152

Novel (New directions in the novel), N:313

Woolf, Virginia, W:313

Streamlining, So:351 with diagram Streatfeild, Noel (British author), So:352

Streep, Meryl (American actress), So:352 with portrait

Film Industry (Best performance by an actress), F:97; (Best performance by an actress in a supporting role) F:97

Street cries, So:352

Street jump [parade]

Antigua and Barbuda (Recreation),

Street map

Map (Mobility map), M:183

Street Scene [musical by Weill] Weill, Kurt, W:141

Street Scene [painting by Sekoto]
South Africa, Art of picture on, So:70

Street Scene (play by Rice) Rice, Elmer, R:267

Streetcar Named Desire, A [film]

Kazan, Elia, K:207

Streetcar Named Desire, A Iplay by
Williamsl

American literature (Drama), A:321 Brando, Marlon, B:523

Drama (Later United States drama), D:301

Williams, Tennessee, W:258

Streeton, Sir Arthur [Australian painterl, So:352

Australia, Art and architecture of (Impressionist painters), A:782 with picture

Heidelberg School, H:134

Streisand, Barbra [American singer], So:353 with portrait

Film industry (Best performance by an actress), F:97

Strength of materials, So:353 Strep throat

Pharyngitis, P:359

Strepsiptera lentomology Insect (table), 1:262

Streptococcus, So:354 with picture

Erysipelas, E:323 impetigo, 1:46

Nephritis, N:77

Rheumatic fever (Causes and symptoms), R:251

Scarlet fever (Causes), \$:123

Streptococcus lactis thermophilus Yoghurt, Y:454

Streptomycln (medication), So:354 Antibiotic (table), A:456; (Damage to organs and tissues) A:457; (HIstory) A:458

Stress lengineering

Annealing, A:425 Elasticity, E:136 Metal fatigue, M:375

Spring [metal device], So:240 Strength of materials (How materials

react to force), So:353

Stress [health], So:354

Aerospace medicine, A:107 Balance of nature (Behaviour), B:35

Health (Handling stress), H:96

Mental illness (Emotional stress), M:354

Myalgic encephalomyelitis, M:748 Selye, Hans, S:245

Space exploration (Microgravity), So:135

Stress hormone Hormone, H:278

Stress metre Poetry, **P:612**

Stretch yarn

Textile (Making the yarn), T:172

Fugue, F:480

Striated muscle

Heart (Muscular walls), H:101 Human body (Skeletal muscles), H:351

with diagram Muscle (Skeletal muscles), M:713

Strictly Business [book by Henry] Henry, O., H:154

Stride piano (music) lazz (The 1920's), 1:75

Stridulation

Ant (Sense organs), A:429 Insect (Hearing), 1:252 Strike [labour], So:355

Australia, History of (The strikes of the 1890's), A:813; (Industrial relations) A:819

General Strike, G:78 with picture Strike (film by Eisenstein)

Eisenstein, Sergel Mikhailovich, E:135

Strikeout Baseball, B:128 with picture

Strindberg, August |Swedish writerl, So:356 with portrait

Sweden (Literature), So:467

String bass

Music (Bowed stringed instruments),

M:727 with picture String bean

Bean (Kinds of beans), B:166

String galvanometer

Einthoven, Willem, E:132

Heart (Invention of new medical instruments), H:111

String orchestra

Orchestra, 0:486

String Quartet in G minor imusic by Debussy]

Debussy, Claude, D:63

String Trio (music by Webern) Webern, Anton, W:127

Stringed instrument

Music, M:727 with pictures Orchestra (The musicians), 0:488

Stringfellow, John [British inventor] Aeroplane (Powered flight), A:77

Stringless bean

Bean (Kinds of beans), B:166

Stringy bark [tree]

Eucalypt (Stringy barks and peppermints), E:351

Strip cropping

Conservation (Soil conservation), Cl:293 with picture

Erosion (Controlling erosion), E:323; picture on E:322

Strip mining Coal, Ci:124

Mining, M:493

Uranium (Locating and mining uranium), U:274

Striped bass

Bass (Freshwater bass), B:141 with picture

Striped bonito (fish) Bonito, B:450

Striped dolphin

Dolphin (Other species), D:252

Striped hyena Hyena, H:409

Striped marlin

Fish picture on, F:160 Marlin, M:215

Striped toad

Toad picture on, T:268

Stripper [machine] Ridley, John, R:273

Stripping

Printing, P:782

Stroessner, Affredo | Paraguayan political leaderl, So:357

Paraguay (Stroessner's rule and over-

throw), P:167 Stroke (disorder), So:357 with picture

Aneurysm, A:364 Aphasia, A:471

Artificial heart, A:611

Blood (Controlling bleeding), B:397

Brain, B:517

Cerebral haemorrhage, C:327

Circulatory system (Disorders of the circulatory system), C:8

Disease (Chronic, degenerative diseases), D:193

Nervous system (Disorders of the nervous system), N:85

Stroke [engine]

Petrol engine (Cycle), P:331

Stromatolites [fossil]

Australia (Precambrian Eon), A:767 Stromboli [island, Italy], So:358

Stromness [Orkney]

Orkney, 0:502; picture on 0:504

Strong Interaction

Atom (Forces in the nucleus), A:727 Force (Fundamental forces), F:338

Gluon, G:216 Grand unified theories, G:294

Meson, M:370

Neutron, N:105

Nuclear energy (Atoms and nuclei), N:320

Nuclear physics, N:332

Physics (Physics today), P:478 Strontium [element], So:358

Flame test, F:218

Nuclear energy (Wastes and waste disposal), N:326

Stroud (England), So:358

Strowger, Almon [American inventor] Telephone (History), T:109

Structural geology

Geology (table), G:92 Structuralism

Gestalt psychology, G:143

Lévi-Strauss, Claude, L:197 Mythology (Lévi-Strauss's theory), M:765

Psychology, P:830

Sociology (Development of social research), So:13

Structure and Distribution of Coral Reefs. The book by Darwini

Darwin, Charles Robert (Darwin's life),

Strudel [food]

Hungary (Way of life), H:376

Struve, Otto [American astronomer], 50:358

Strychnine idrugi, So:358

Strychnos Curare, Ci:500

Strzelecki, Sir Paul Edmund de (Polish explorerl, So:359 with portrait

Stuart Little (book by White)

White, E. B., W:231 Stuart Sapphire

Crown Jewels (Crowns), Ci:459

Stuart, Charles Edward | Young Pre-

tenderl

Jacobite risings, J:8

Pretenders, P:772

Scotland, History of (The Act of Union), S:173

Stuart, Gilbert Charles | American art-

istl, So:359 with portrait Stuart, Henry

Darnley, Lord, D:37

Stuart, House of [British history], So:359

Scotland, History of (Independent Scotland), S:170; (The Renaissance kings) S:171; (The union of the crowns) 5:172

Stuart, James Edward [Old Pretender] Jacobite risings, J:8

Pretenders, P:772

Scotland, History of (The Act of Union), S:173

Stuart, John McDouali [British explorerl, So:360 with picture and

Alice Springs, A:268

Australia (Land exploration), A:808 Exploration (table), E:426; (Crossing Australia E:426; map on E:425 Northern Territory, N:285

Stuart, Mary

See Mary, Queen of Scots

Stubble quail Quall, Q:4

Stubbs, George (British painter), So:361 with picture

Stucco, So:361 Austria (Way of life), A:859

Stud farm

Horse (Breeding horses), H:301

Horse (Breeding horses), H:301

Studebaker, Clement [American businessmanl, So:361

Studebaker, John Mohler (American businessmanl, So:361

Student Prince, The loperatta by Romberal

Heidelberg, H:134

Studies in the Psychology of Sex **lbook** by Ellis

Ellis, Havelock, E:217

Studs Lonigan (book by Farrell) American literature (Realist fiction). A:318

Farrell, James T., F:28

Study After Velázquez ... [painting by

Bacon, Francis [painter], B:19 Painting picture on, P:32

Study [learning], So:361 Study in Scarlet, A lbook by Conan

Doyle] Detective story (History), D:136

Doyle, Sir Arthur Conan, D:277 Holmes, Sherlock, H:248

Study of History, A book by Toynbeel Civilization (Why civilizations rise and fall), CI:49

History (Theories of history), H:225 Toynbee, Arnold Joseph, T:322

Stumpjump plough, So:362 with picture

Stumps

Cricket, Ci:425

Stupa [building] Architecture (Indian architecture), A:519 with picture

India, Art of, 1:83 with picture Sculpture (India),, S:197

Stureluson

See Snorri Sturiuson

Sturgeon [fish], So:362 with picture Caviar, C:287

Egg (Other kinds of eggs), E:97 with picture

Fish (Modern bony fish), F:154

Sturgeon, William [English electrician] Electric motor (History), E:155 Electromagnet, E:176

Telegraph (Development of the telegraph), T:102

Sturges, Preston (American film writer). So:363

Sturkuson

See Snorri Sturluson

Sturm und Drang [literature] See Storm and stress movement

Sturm und Drang [book by Herder] Herder, Johann Gottfried von, H:159

Sturt Desert [Australia], So:365

Sturt, Charles (British explorer), So:363 with pictures and map

Broken Hill, B:584

Exploration (table), E:426; (Crossing Australia) E:426

Sturt's desert pea, So:365 with picture Stuttering, So:365

Speech therapy (Types and causes of speech defects), So:208

Stuttgart [Germany], So:365 with pic-

Stuyvesant, Peter [Dutch-born American settler!, So:366 with portrait Sty, So:366

Eye (Diseases of the outer parts), E:441 with picture

Style [art]

Fashion, F:31 with pictures Interior decoration, 1:283

Style [botany]

Flower (The pistils), F:262; picture on

Plant (Flowers), P:555 with picture; (In seed plants) P:556 with pictures

Seed (Seed development in angiosperms), S:236

Style (the elements of literature) Literature, L:311

Style moderne

Arto deco, A:603

Styles of Radical Will lessay by Sontagl Essay (Formal essays), E:330

Sontag, Susan, So:42

Stylet

Eelworm, E:96

Insect (Mouthparts), 1:248 with diagram

Mosquito (How a mosquito "bites"), M:634 with diagrams

Ribbon worm, R:260 Stylops [insect]

Insect (table), 1:262 Stylus

Record player, R:163; (The tone arm) R:164

Styracosaurus

Dinosaur (Ornithischians), D:180 Prehistoric animal picture on, P:746

Styrene

Rubber (General-purpose synthetic rubbers), R:436

Styrofoam, So:366

Styron, William [American author], So:366 with portrait American literature (Fiction and other

prose), A:320 Styx [Greek and Roman mythologyl,

So:367 Hades, H:4

Su-chou

See Suzhou

Sualkashi

Assam (Places to visit), A:670

Suanpan [calculator]

Abacus, A:3

Suardi Suryaningrat (Indonesian nationalist), So:367

Suárez, Francisco (Spanish theologian), So:367

Subatomic particle

Alvarez, Luis Walter, A:296 Atom (The parts of an atom), A:724

Baryon, B:122

Gluon, G:216 Hadron, H:4

Particle physics, P:206

Physics (Uncovering the secrets of the atom), P:478; (Advances in the mid 's) P:478; (Physics today) P:478

Quark, Q:7

Subbituminous coal

Coal (Uses of coal), Ci:121 Fuel (Coal), F:478

Subbulakshmi, M. S. [Indian singer], So:367

Subclavian artery

Artery (Principal arteries), A:605 Subconjunctival haemorrhage

Eye (Disorders of the eye's outer parts) picture on, E:441

Subcontract

Building construction (Constructing a skyscraper), B:628

Subcritical mass

Nuclear weapon (Fission weapon), N:335

Subculture

Adolescent, A:51

Culture (The boundaries of culture),

Subcutaneous injection

Hypodermic injection, H:416 Inoculation, 1:238

Subcutaneous tissue

Skin, S:469

Subduction

Plate tectonics (Convergent plate boundaries), P:585

Suberin

Bark (Outer bark), B:111

Subhedral crystal

Crystal (Crystallization), Ci:469

Subhumid soil

New South Wales (The soils), N:131

Nutrition (Carbohydrates), N:363

Sugar, So:390

Suction curettage

Subordinate [behaviour] N:346: (Hexadecimal arithmetic) Subirrigation N:347 Irrigation, 1:408 Dominance, D:254 Subordinating conjunction **Subtraction facts** Subject Subtraction, So:374 Classical music (Fugue), Ci:58 Conjunction, Ci:286 Subtractive colour mixture Subordination Fuque, F:480 Grammar (The actor-action-goal rela-Colour, Ci:195 Sentence (Subject and predicate), Subtrahend tionship), G:288 S:257 Subtraction (Subtraction questions), **Subject to contract** Subornation of perjury So:373 Perjury, P:284 Conveyancing, Ci:318 Subject-verb-complement relation-Subtransmission substation Subpoena [law], So:372 Witness, W:283 Electric power (Distribution), E:160 Subpolar regions Subtropical fruit Grammar (The actor-action-goal rela-Calms, Regions of, C:43 Fruit (How horticulturists classify tionship), G:288 Subscriber Trunk Dialling (STD) fruits), F:472 with picture Subjection of Women, The book by Subtropical high Telephone (Long-distance calls), T:108 Calms, Regions of (The horse lati-Subscribers Philosophy (Philosophy in the 1800's), tudes), C:43 Telephone (History), T:109 P:426 Subscription Ball, Ballarat painting by Subtropical maritime anticyclone Subjective theory Calms, Regions of, C:43 Statistics (Probability), So:303 Australia, Art and architecture of pic-Subtropics Subjectivism Flower (Flowers of the tropics and Philosophy (Ethics), P:421 ture on, A:782 subtropics), F:260 with pictures Subset [mathematics] Subjunctive mood (grammar) Suburb, So:378 Set theory, S:275 Mood, M:582 Set theory (Intersection of sets), S:276 City (Metropolitan cities), Cl:32 Sublette, William Lewis [American fur Subway trader]. So:367 with diagram Set theory (Union of a set and its sub-See Underground railway Sublimation [physics], So:367 Succession Wars, So:378 set), S:276 with diagram Camphor, C:63 See also list of Related Articles Subsidiary company Cloud (How clouds form), Cl:110 Austria (Wars in the 1700's and 1800's), Holding company, H:244 Evaporation, E:403 A:066 Subsidy, So:372 Melting point, M:339 Nationalization (Advantages and disad-Philip V. P:366 Refrigeration (Dry ice), R:184 Successive hermaphroditism vantages), N:46 Vapour, V:314 Hermaphrodite, H:178 Subsistence agriculture Subliminal (psychology), So:367 Successive planting Sublingual gland Agriculture, A:165 Gardening diagram on, G:36 Northern Province (Economy), N:277 Sallva, S:51 with diagram Succory Subluxation (injury) Subsoil Chicory, C:401 Soil (Characteristics of soils), So:21 Dislocation, D:199 Succot Submandibular gland Subsonic flight See Sukkot Aerodynamics (Shock waves and sonic Saliva, 5:51 with diagram Succulent (plant), So:379 with picture Submarine, So:368 with pictures booms), A:72 Such is Life [novel by Furphy] Subsonic tunnel See also list of Related Articles Australia, Literature of (Novels), A:832 Diving, Underwater (Diving in vehi-Wind tunnel, W:269 Sucker cles), D:208 Substandard housing Banana (How bananas grow), B:71 Housing, H:328 with picture Fulton, Robert (The inventor), F:482 Sucker (fish), So:379 with picture Holland, John Philip, H:246 Substitution Sucker-footed bat Algebra (Solving linear equations in Inertial guidance, 1:227; (History) 1:227 Bat (Kinds of bats), B:148 two variables), A:259 Navy (Ships and aircraft), N:59 **Sucking stomach** Periscope, P:283 Substructure Spider (Digestive system), So:220; dia-Building construction (Parts of a build-Rickover, Hyman George, R:272 gram on So:219 Sonar (How sonar works), So:39 ing), B:626 Suckling, Maurice [British naval cap-Warship, W:44 with picture; (War-Subsurface drainage Drainage, D:280 with diagrams ships in the nuclear age) W:46; Nelson, Horatio (Early life), N:71 Subsystem (Warships in the two world wars) Suckling, Sir John (English poet), Satellite, Artificial (Building a satellite), W:46 So:379 Submarine volcano 5-40 Sucre [Bolivia], So:379 West Indies (Land), W:169 Subterranean clover Sucre, Antonio José de Ipresident of Submerged arc welding Clover, Ci:114 Subtraction [mathematics], So:373 with Bolivial, So:380 Welding (Arc welding), W:143 Bolivia (independence), B:430 Submersible pictures Diving, Underwater (Diving in vehi-Ecuador (Spanish rule), E:73 See also list of Related Articles Peru (The war of independence), P:315 Algebra (Fundamental laws), A:255 cles), D:208 Sucrose, So:380 Ocean, 0:399 with picture Algebra (Positive and negative num-Submersible pump Carbohydrate (Simple carbohydrate), bers). A:254 with diagram C:187 Construction equipment (Pumping ma-Algebra (Solving equations), A:253 Fructose, F:471 Arithmetic, A:571 with picture chines), Ci:310 Suborbital mission Hydrolysis, H:407 Decimal system, D:69

Fraction, F:387

Numeration systems (Decimal arithme-

tic), N:346; (Binary arithmetic)

Space exploration (Vostok and Mer-

space), So:145

cury: The first human beings in

Kyrgyzstan (History), K:350

Abortion (Abortion methods), A:15 Turkmenistan (History), T:468 Debussy, Claude, D:63 Sudan, So:380 with pictures and map Sufism [Islamic doctrine] Suite [music], So:396 India, Literature of (The Islamic influ-Sukarno (Indonesian political leader). See also list of Related Articles Aviation (Aircraft nationality marks), So:396 with portrait ence), 1:127 A:881 Indonesia (Indonesia under Sukarno), Sugar Act [1764] Flag picture on, F:202 American Revolution, A:323 1:202; picture on 1:203 Khartoum, K:241 United States, History of the (British Indonesia (The growth of nationalism); Nuer, N:341 policy changes), U:240 (The birth of independent In-Omdurman, 0:450 Sugar beet, So:393 with picture donesia), I:201 Port Sudan, P:695 Sugar (The sources of sugar), So:391 Jakarta (Places of interest), 1:13 Sudan grass, So:385 with picture; (Sugar from sugar Pancasila, P:127 Grass (table), G:303 beet) So:392 Sutan Sjahrir, So:450 Sudbury (England) Sugar, So:390 with pictures Sukiyaki [food] Suffolk (Places to visit), So:389 Diabetes (Diabetes mellitus), D:151 Japan (Food and drink), J:42 Sudden Infant death syndrome Honey, H:264 Sukkot [jewish festival], So:397 with pic-(SIDS), So:385 Nutrition (Carbohydrates), N:363; (Nu-Baby (Health care and safety), B:1 trition guidelines) N:364 Judaism (The pilgrim festivals), 1:156 Sudeley Castle (England) Queensland (Farming), Q:22 Sulawesi (Indonesia) Gloucestershire (Places to visit), G:213 Slavery (The Middle Ages), S:480; Indonesia (The islands), I:187 with map Sudermann, Hermann [German drama-(Modern times) S:481 Suleiman I [Ottoman ruler], So:397 tist], So:385 Teeth (A good diet), T:92 Ottoman Empire (Expansion and de-**Sudeten Germans** Sugar cane, So:393 with picture cline), 0:521 Czech Republic (The creation of Barbados (Sports and recreation), Turkey (The rise of the Ottoman Em-Czechoslovakia), Ci:521 B:102 pire), T:462 Czechoslovakia (Independence), Cuba, Ci:479 Suigrave Manor [England], So:397 with Ci:524 Grass, G:301, G:304 **Sudeten Mountains** Queensland (Farming), Q:22 with pic-Sulla, Lucius Cornelius |Roman gen-Czech Republic, Cl:518 with picture eral), So:398 Czechoslovakia (Early history), Ci:523 Sugar (The sources of sugar), So:391 Caesar, Julius (Early life), C:12 Sudetenland, So:385 with picture; (Sugar from sugar Library (Greece), L:230 Czech Republic (The creation of cane) So:392 Mithridates VI, M:519 Czechoslovakia), Ci:521 West Indiespicture on, W:170 Pompey the Great, P:666 Minority group (Results of minority Sugar cane wax Rome, Ancient (Breakdown of the restatus), M:501 Wax (Vegetable wax), W:106 public), R:380 Munich Agreement (Background), Sugar glider [animal], So:394 with pic-Sullivan, Anne [American public figure] M:702 Keller, Helen Adams, K:211 with pic-World War II (The failure of appease-Sugar gum [tree] ment), W:382 Eucalypts picture on, E:349 Sullivan, John L. [American boxer], **Sudetes Mountains** Sugar Loaf Mountain So:398 with portrait Poland, P:630 Earth picture on, E:28 Boxing (From bare knuckles to gloves), Suede, So:385 Rio de Janeiro picture on, R:281 B:496 Suet. So:385 Sugar Loaf Mountain (Brazil) Sullivan, Louis Henri American archi-Suetonius (Roman biographer), So:385 South America picture on, So:86 tect], So:398 with pictures Suez (Egypt), So:386 Sugar maple Wright, Frank Lloyd (Early career), Suez Canal, So:386 with map Maple, M:192 with picture W:417 Canal (The Panama and Suez canals). Maple syrup, M:193 Sullivan, Sir Arthur Seymour British Sugarbird composer), So:398 with portrait Egypt (Muhammad Ali and moderniza-See Honeyeater D'Oyly Carte, Richard, D:278 tion), E:116 Suggestion (psychology), So:395 Gilbert and Sullivan, G:158 Egypt (Republic), E:117; picture on Suharto Indonesian political leaderl, Sully-Prudhomme, René François Ar-E:118 So:395 with picture mand [French poet], So:399 Indian Ocean, I:169 Indonesia (Indonesia under Suharto), Sully, Thomas [American painter], Suez Crisis, So:386 1:202 with picture So:399 with picture Macmillan, Harold, M:20 Sulman, Sir John British-born archi-President (Unlimited presidency), Suffolk (England), So:387 with pictures P:766; picture on P:765 tectl, So:400 See also list of Related Articles Sui dynasty (Chinal, So:395 Sulpha drug Arms picture on, A:586 Sulcide, Sp:396 Sulphonamide, So:400 Suffolk Coastal [England], So:389 Depression, D:125 Sulphate, So:400 Suffolk horse Euthanasia, E:401 Baking powder, B:34 Horse (Draught horses), H:290 with Hara-kiri, H:57 Sulphate ion Battery (Lead-acid storage batteries), picture Suicide (book by Durkheim) Suffrage Durkheim, Émile, D:356 B:155 Beard, Charles and Mary, B:172 Suir Iriver, Irelandl, So:396 Sulphate rosin Suffragettes, So:389 with picture Suit (cards) Rosin, R:402 Voting (Who may vote), V:427 Bridge diagram on, B:567 Sulphide, So:400 Women's movement (The right to Card game (History), C:192 Galena, G:11 vote), W:296 Suit [law], So:396 Ore, 0:492 Sufis (religion) Suite bergamasque Imusic by De-Silver (Sources of silver), S:428

bussy]

Sulphonamide (drug), So:400

Domagk, Gerhard, D:254 Drug (the drug revolution), D;318 Sulphur, So:400 with picture Williams, Tennessee, W:258 Coal (Coal as a fuel), Cl:121; (Cleaning Summer annual coal) Ci:128; (Pollution control) Weed (How weeds grow), W:131 Summer, So:407 Fungicide (Inorganic fungicides), Season, S:229 Summer Bird-Cage, A lwork by Drab-F:487 Mineral picture on, M:485 blel Drabble, Margaret, D:278 Rubber (Compounding and mixing), Summer camp R:435; (Vulcanization) R:436 Camping, C:68 with picture Saint Lucia picture on, S:39 **Summer Games** Sulphur lentomologyl Butterfly, B:682 with pictures Olympic games, 0:434 Summer of the Red Wolf book by Sulphur bottom whale West Whale (Blue whales), W:207 West, Morris, W:155 Sulphur dioxide, So:402 Summer solstice [astronomy] Acid rain, A:24 Season, S:230 Coal (Coal as a fuel), Cl:121 Sulphur (Properties), So:401 Solstice, So:33 Sulphuric acid (How sulphuric acid is Summer time Daylight saving, D:53 made), So:403 **Summit conference** Sulphur dye International relations (International Dve. D:362 Sulphur oxides conferences and organizations), 1:294 Air pollution (Fuel combustion), A:202 Summons [law], So:407 Sulphur (ship) Sumner, James B. (American blochem-Stirling, Sir James, So:326 Sulphuric acid, So:402 istl Enzyme, E:310 Acid (Inorganic acids), A:24 Sumner, William Graham (American Battery (Lead-acid storage batteries), sociologist Sultan [title], So:403 Ethnocentrism, E:342 Mores, M:605 Kedah (People and government), Sumo [wrestling] japan, J:32; (Recreation) J:43 with pic-Kelantan (People and government), K:210 Tokyo (Entertainment and recreation), Oman, 0:448 Ottoman Empire (Government), Wrestling, W:415 with picture So:403 Selangor, S:241 Sump Petrol engine (Lubrication system), Sultan of Sulu, The [play by Ade] P:334 Ade, George, A:42 Sumptuary law, So:407 Suitan tit Fashion (Why people follow fashion), Tit. T:264 Sultana Sun Also Rises, The book by Heming-Grape (European grapes), G:297 Raisin (Varieties of raisins), R:121 American literature (The lost genera-Sulu (clothing) tion), A:317 Pacific Islands (Clothing), P:7 Hemingway, Ernest (Rise to fame), Sulu Sea, So:403 Sumach (tree), So:403 with picture H:143 Novel (New directions in the novel), Sumatra (island), So:404 with pictures Indonesia (The islands), I:187 with map N:313 Sumatran tiger Sun. So:408 with pictures Tiger (The rare tiger), T:245

Cult (Modern cults), Cl:489 Sun Shines over the Shang-kan River lbook by Ding Lingl Ding Ling, D:173 Sun worship, So:422 Phoenix, P:430 Stonehenge, So:335 Sun, So:412 with picture Sun Yat-sen [Chinese statesman], So:422 with portrait Chiang Kai-shek, C:389 China (The fall of the Manchus), C:461 Nanjing (The city), N:15 with picture Soong Ching-ling, So:43 Sunbasket Cooker (History), Ci:333 Supplied, So:423 with pictures Sunburn, So:423 Skin (Burns), S:470 Sunda Islands Pacific Ocean (Boundaries and size), P:14 Sunda Kalapa Jakarta (History), J:15 Sundaram, Vivan (Indian artist) India, Art of (The colonial and modern periods), I:89 Sundarbans (tidal forest) West Bengal (Places to visit), W:161 Sunday, So:423 Easter, E:43 Sunday in the Park with George work by Sondheim) Musical comedy (Musical comedy today), M:740 with picture Sondheim, Stephen, So:40 Sunday school United Kingdom, Educational systems of the (History), U:102 See also list of Related Articles Sunderland [England], So:424 with pic-Astronomy (The daytime sky), A:686 Heat, H:115 See also Tyne and Wear Magnetism (The magnetism of the Sundew [plant], So:424 sun), M:57 Sundial, So:424 with picture Ocean (Tides), O:395 Clock (History), Cl:86 Perihelion, P:282 Sun (Telling time and directions), Plant (Plants and the cycle of nature), So:412 P:542 with diagram Time (Devices that measure time), Solar system, So:26 T:256 Space exploration (Solar probes), Sundiata Kelta [Mali Empire ruler], So:144 Star (Star motions), So:282 Sunfish, So:425 with pictures Tide (Tides follow the moon), **T:240**

Sumer lancient region), So:407 Sumerian architecture Architecture (Mesopotamian architecture), A:517 Sumerians [people] Babylonia (Way of life), B:13 Education (The beginning of formal education), E:89 Sumer, **\$:407** Writing (Logographs), W:423 Summa Theologica (book by Aquinas) Political science (Scholasticism), P:653 Summary

Time (Measuring time by the sun), Debate (Several types of debate), D:62 Summer and Smoke [play by Williams] T:256 Twilight, T:480 Ultraviolet rays, U:18 Sun City (South Africa), So:422 North West (Tourism), N:264 with picture Sun dance Indian, American (Shamans, Priests, and prophets), 1:145 Sun gear [mechanics] Gear (Types of gears), G:68 Transmission (The planetary gears), T:344 diagrams on T:343 Sun lamp, So:422 Sun Myung Moon (Korean religious leader]

Sunflower [plant], So:425 with picture Sunflower [book by West] West, Dame Rebecca, W:156

Suno dynasty See Song dynasty

Sunlight Sonata (play by Bridie) Bridie, James, B:570

Sunn hemp

Crotalaria, Ci:456 Sunni Ali [Songhai Empire ruler], So:426

See also Songhai Empire Sunnis Ireligion), So:426

Egypt (Religion), E:109; (Muslim rule) E:115

Iran (Religion), I:335 Iraq (Religion), 1:344 Islam (Sects), 1:416 Lebanon (Ethnic groups and religion),

1:140 Muslims (The Seljuk Turks), M:744

Somalia (People), So:35 Sunraycer [electric car]

Electric car (History), E:141 Sunset Gun [work by Parker]

Parker, Dorothy, P:187 Sunshine Coast [Australia], So:426

Sunshine State Queensland, Q:13 with pictures and

maps Sunspot, So:426 with picture

See also Aurora; Magnetic storm Magnetism (The magnetism of the sun), M:57

Sun, So:416 with picture

Sunspot cycle Ацгога, А:747

Magnetic storm, M:53

Sunspot, Sa:416; (How sunspots form) So:427

Sunstroke, So:427 Suomi (people)

Arctic (In the European arctic), A:543 Super-calender

Paper (Special kinds of paper), P:136 Super-proton synchrotron

CERN, C:329 Superalloy

Alloy (Other alloys), A:278

Superb blue fairy wren Bird picture on, B:332

Superb fairy wren Wren, W:414 Superb lyrebird

Bird picture on, B:332

Supercharger

Diesel engine (How a diesel engine works), D:168 Petrol engine (Air and fuel), P:332

Supercluster [astronomy] Galaxy (Kinds of galaxies), G:10

Universe, U:265

Superconducting electromagnet

Magnet and magnetism (How magnets of different shapes are used), M:53

Magnetic levitation train, M:52 with picture

Superconducting gradiometer Magnetometer, M:60

Superconducting magnet

Magnetism (Electromagnets), M:56

Superconductivity, So:427 Bardeen, John, B:109

Cryogenics, Ci:468 Cryotron, Ci:468

Electricity (Conduction of electric current), E:168

Physics (Solid-state physics), P:474 Solid-state physics, So:30

Superconductor

Electronics (The development of electronics), E:193

Supercooled water

Hail, H:9

Rain (The ice-crystal theory), R:117 Rainmaking (Rainmaking methods),

Snow (How snow forms), S:522

Supercritical mass

Nuclear energy (Hazards and safeguards), N:326

Nuclear weapon (Fission weapons), N:335

Superego (psychology)

Age of Reason (Criticism of the Age of Reason), A:157

Ego, E:99

Freud, Sigmund (On the mind), F:457 Personality (Freud's psychoanalytic theory), P:300

Psychoanalysis (Psychoanalytic theory), P-826

Supergiant

Astronomy (Stars), A:690

Deneb, D:107

Star (The size of stars), So:281; (Giants and supergiants) So:284

Sun (The size of the sun), So:409 Superheated steam

Steam, So:307

Steam engine (Modern steam engines), So:309

Superheater

Electric power (Fossil-fuelled steam electric power stations), E:158

Superheterodyne

Radio (Amplifiers), R:80

Superintendent

Police (Police around the world), P:641

Superior vena cava

Circulatory system (In respiration), Ci:7 Heart (Blood vessels), H:102

Human body (The blood vessels), H:356

Superman [philosophy] London, Jack, L:375

Nietzsche, Friedrich, N:202 Philosophy (Philosophy in the 1800's),

P:426

Supermanship (book by Potter) Potter, Stephen, P:722

Supermarket, So:428

Retailing, R:244 Supernova, So:428

Astronomy (Stars), A:690; picture on

Brahe, Tycho, B:507 Magnetic storm, Mc53 Neutron star, N:105 Nova, N:310

Superpressure balloon Balloon, B:61 with picture

Superrealism

Sculpture (The superrealists), \$:218 with picture

Supersonic aeropiane Aeroplane, A:86

Supersonic flight

Aerodynamics (Shock waves and sonic booms), A:72

Aeropiane (Supersonic aeropianes),

Jet propulsion (Turbojet), J:103 with di-

Rocket (Rocket-powered aeroplanes), R:323

Streamlining, So:351

Transportation (Air transportation), T:349

Supersonic tunnel Wind tunnel, W:269

Superstition, So:429 with pictures

See also list of Related Articles Folklore, F:287; (Superstitions and customs)

Magic (Magic today), M:47

Superstructure

Building construction (Parts of a building), B:626

Supertanker

Ship (Tankers), S:379 Tanker (Kinds of tankers), T:29

Suppé, Franz von (Austrian composer),

So:430 Suppliants, The [play by Aeschylus]

Aeschylus, A:108 Suppliants, The lplay by Euripides

Euripides, E:354 Supply and demand, So:430 with dia-

Economics (Consumers), E:62 (Markets, prices and competition) E:62; table on E:65

Price (Demand and supply), P:774 Supply curve

Supply and demand, So:430

Supply [ship]

Australia, History of (The first fleets), A:800; (The first settlement)

A:800

Botany Bay, B:481

First Fleet (The fleet), F:148

Phillip, Arthur (Early life), P:416; (The colony's early years) P:417

Support price

Price (Government intervention), P:774

Supporter

Heraldry (Elements of a coat of arms),

H:160; picture on H:159 Supposes [play by Gascoigne] Gascoigne, George, G:60

Suppositi, I [play by Ariosto] Drama (Italian Renaissance drama),

D:290

Suprasegmental Grammar, G:288

Supremacy, Acts of, So:430 with pic-

Elizabeth I (Problems at home and abroad), E:212 Henry VIII, H:152

Protestantism (The conservative re-

form movements), P:816 Reformation (In England), R:182

Supreme court

Australia, Legal system of, A:828 Supreme Court Building

Washington, D.C., W:56 Supreme Court of Canada

Canada, Government of, C:93 Surabaya [Indonesia], So:431

Surapati [Balinese soldier], So:433

Guiarat (Places to visit), G:422 Surcharged stamp

Stamp collecting, So:271 Surcoat

Clothing (Western Europe), Cl:100 with picture Surdas (Indian poet)

India, Literature of (Hindi literature),

Sure Hand of God, The book by Cald-

Caldwell, Erskine, C:33

Súreté Nationale Police (France), P:641 Surety

Bonding, B:445

Will (Administration), W:254 Surf carnival Surf Ilfesaving, So:434

Surf Life-Saving Association of Aus-

Surf lifesaving, So:433

Suri lifesaving, with pictures, So:433 Surf reel

Surf lifesaving picture on, So:434 Surface drainage

Drainage, D:280 with diagrams Surface effect ship (SES)

Hovercraft (How a hovercraft works), H:332 with pictures

Surface measurement Area, A:550

Metric system, M:386 with pictures Square measure, So:244

Surface mining Mining, M:491

Surface-piercing hydrofoli Hydrofoil, H:402 with picture

Surface-supplied diving Diving, Underwater, D:208 with pic-

ture Surface tension, So:435

Water, W:82

Surface-to-air missile (SAM) Gulded missile, G:409 with picture Surface-to-surface missile (SSM)

Guided missile, G:409 Surface water

Irrigation, 1:406 Surface water temperature

Pacific Ocean (Climate), P:15

Surface wave Earthquake (Why earthquakes occur),

F-33 Surfactant

Detergent and soap, D:137 Lung (Other jobs of the lungs), L:415 Surfboard

Surfing, So:435 with picture

Surfers Paradise (Australia), So:435 Surfing (sport), So:435 with pictures Surgeon

Surgery, So:436 with pictures

Surgeon of His Honour, The Iplay by Calderón de la Barcal

Calderón de la Barca, Pedro, C:33

Surgery, So:436 with pictures See also list of Related Articles Cancer, C:122

Diathermy, D:157

Disease (Treating disease), D:197

Endoscope, E:244

Heart (Treatment), H:105; (Development of heart surgery) H:112; pictures on H:106, H:110

Laparoscopy, L:61 Laser (Heating), L:71; picture on L:69 Lister, Sir Joseph, L:307

Medicine (Treatment), M:307; (General surgery) M:311; picture on M:308

Weight control, W:135

Surgical expense insurance Insurance (Basic types of health insurance), I:273

Surgical instrument Surgery (Instruments), So:437

Surgical sterilization Birth control (Methods of birth control), B:367

Surinam

See Suriname

Surinam toad, So:440 with picture Toad (Kinds of toads), T:268

Suriname [South America], So:440 with picture

Flag picture on, F:203 Surmullet

Mullet, M:692

Surname

Name (Beginning), N:8

Surplus

Economics (World finance), E:64 Price (Government intervention), P:774

Surrealism, So:442 with picture Baudelaire, Charles, B:158

Breton, André, B:554 Chagall, Marc, C:335

Dadaism, D:2 Dali, Salvador, D:9

Duchamp, Marcel, D:336

Ernst, Max, E:321 French literature, F:450

Freud, Sigmund (His influence), F:458 Giacometti, Alberto, G:151 with picture

Miró, Joan, M:507

Painting, P:83 with picture Sculpture (Assemblages), S:216 Surrey [England], So:442

See also list of Related Articles Arms picture on, A:586

Surrey Heath [England], So:445 Surrey, Earl of English poetl, So:445 Blank verse, B:384

Poetry (Renaissance poetry), P:615

Surrogacy

Infertility (Treatment), 1:229

Surrounded Islands (sculpture by Christo]

Sculpture picture on, S:218

Surtees, John [British racing driver], So:445

Surtsey

Iceland (The inland plateau), 1:22 Volcano (table), V:419 with map; picture on V:416

Surve, Narayan [Indian writer] India, Literature of (Dalit literature),

Survey

Psychology (Systematic assessment),

Public opinion poli, P:839 Research (Collecting evidence), R:236 Sociology, So:12

Surveying, So:445

Egypt, Ancient (Sciences), E:127 Map (Observation and measurement), M:189

Radar picture on, R:59

Surveyor [space probe] Jet Propulsion Laboratory, J:107 Space exploration (Lunar probes),

So:143 with picture Surveyor's compass [Instrument]

Surveying (Early tools), So:446 with picture Survival bobbing

Swimming (Water safety), So:483

Survival of the fittest

Darwin, Charles Robert (Darwin's theories), D:39

Evolution (Main ideas of evolutionary theory), E:406

London, Jack, L:375 Natural selection, N:48

Survival training

Astronaut, A:682

Susa [Persian Empire], So:446

Susan Constant [ship] Jamestown, J:24

Susan Sontag Reader, A book by Son-

Sontag, Susan, So:42

Sushi [food]

Japan (Food and drink), J:42 Sushruta (Indian doctor), So:446

Suslov, Mikhail Andreyevich (Russian

political leaderl, So:446 Suspension (chemistry), So:446

Aerosol, A:107

Smoke, 5:500, S:500 Suspension (mechanics)

Bicycle (Mountain bikes), B:280

Suspension bridge

Bridge, B:561 with picture Turkey picture on, T:455 Wire (Uses of wire), W:278

Sussex (England), So:447 See also list of Related Articles Arms picture on, A:586

Sussex spaniel [dog], So:450 with pic-

ture

Sustained yield

Conservation (Forest conservation),

Sutan Sjahrir (Indonesian political leader], So:450

Sutcliff, Rosemary British authorl, So:450

Sutherland (local government district, Scotlandl. So:450 Sutherland Falls [New Zealand], So:451

Sutherland, Dame Joan (Australian sopranol, So:451 with portrait Sutherland, Graham (British painter),

So:451 with picture Sutlej River [Pakistan], So:451

Sutra Pitaka

Buddhism (The Tripitaka), B:617 Suttee [Hindu custom], So:451

Sutton [London], So:451

Sutton Hoo [England], So:452 with pic-

Sutton, Walter S. [American scienist] Cell (The 1900's), C:303

Suture, So:452

Ligature, L:255

Surgery, So:437; (A typical operation) 80:434

Suva [Fijl], So:452

Fiji, F:75; picture on F:77

Suzhou lancient Chinal, So:452

Suzman, Helen (South African politicianl. So:452

Suzuki method, So:452

Svalbard [islands, Arctic Ocean], So:452 Svedberg, Theodor iSwedish chemistl,

So:453

Sverdlovsk

See Yekaterinburg

Svetambara [religious group] Jainism (Sects and teaching), J:11

Svoboda, Ludvík (Czech political leaderl

Czechoslovakia (The 1960's), Cl:525

Swaffham Tinker (Norfolk legend) Norfolk (Local customs and legends), N:239

Swagman, So:453

Swahili (language)

Africa (Languages), A:123 Kenya (Languages), K:225

Swahili, \$:453

Tanzania (Languages), T:32

Swahili [people], So:453 Bantu, 8:98

Swain reefs [Australia], So:453 Swains Island

American Samoa, A:329

Swale [England], So:453

Kent (Local government), K:219

Swallow [bird], So:453 with pictures Bird pictures on, B:322, B:346

Swailow variable-sweep wing

Wallis, Sir Barnes, W:26

Swallowdale (book by Ransome)

Ransome, Arthur, R:136

Swallows and Amazons [book by Ran-

Ransome, Arthur, R:136

Swallowtail butterfly

Butterfly, B:684 with pictures

Swami and Friends [book by Narayan] Naravan, R. K., N:24

Swammerdam, Jan [Dutch anatomist], So:454

Swamp, So:454 with picture See also list of Related Articles Wetland, W:200

Swan [bird], So:455 with pictures Black swan, B:377 with picture

Swan [ship]

Drake, Sir Francis (Voyage around the world), D:281

Swan, Sir Joseph Wilson (English chemistl, So:456 with portrait

Swan goose

Goose, G:254

Swan Lake |ballet|

Ballet (Recording choreography), B:52; picture on B:47

Classical music picture on, Cl:62 Dancing (The rise of romanticism), D:27

Swan of Tuonela, The (music by Sibelius

Sibelius, Jean, S:405

Swan River [Australia], So:456

Western Australia (European colonization), W:182

Swan River Mania

Western Australia (European colonization). W:182

Swan River pine

Rottnest pine, R:409

"Swanee" [song] Jolson, Al, J:138

Swanscombe man (anthropology), SOCIAL

Swansea [Wales], So:457

Giamorgan, G:177; (Places to visit) G:180; picture on G:179

SWAPO

See South West Africa People's Organization

Swarm Bee, B:188 with picture

Locust, L:356 with picture Wasp (Group life), W:64

Swartberg Range (mountains)

Western Cape (Land and climate), W:184

Swastika (symbol), So:457

Hitler, Adolf (Birth of the Nazi Party), H:229

Swazi [people]

South Africa (People), So:58

Swaziland (People), So:457

Swaziland, So:457 with picture and map

Flag picture on, F:202 Mbabane, M:285

Royal familles, R:422 Sweat

See Perspiration

Sweat box

Raisin (Preparation for market), R:122 Sweat gland

Gland (Exocrine glands), G:183

Perspiration, P:302 Skin (Glands), S:470

Sweatshop, So:459 with picture

Swede [plant], So:459 Turnip, T:471

Sweden, So:460 with pictures and mans

See also list of Related Articles Aviation (Aircraft nationality marks), A:881

Canal, C:112

Christmas, C:490

Europe (table), E:359 Flag picture on, F:209

Norway (Union with Sweden), N:300 Nuclear energy (table), N:328

Royal families, R:420; picture on R:419 Stockholm, So:331 with pictures

Thirty Years' War (The Swedish perlod), T:221

Swedenborg, Emanuel [Swedish theologianl

Swedenborgians, So:475 Symbolism, So:516

Swedenborglans, So:475

Swedish cress

Cress, Cl:422

Swedish vallhund (dog), So:476 with picture

Sweepstake

Horse racing (Types of horse races), H:307

Sweet alyssum (plant), So:476 with pic-

Sweet basil (plant)

Basil, B:132 with picture Sweet birch

Birch (Dwarf birch), B:314

Sweet Bird of Youth [play by Williams] Williams, Tennessee, W:258

Sweet cicely [plant], So:476 with picture

Sweet com

Maize, M:71, M:73

Sweet cream butter Butter (Churning), B:678

Sweet flag iplantl, So:476 with picture Arum, A:615

Sweet gum [tree], So:477

Sweet marjoram

Marjoram, M:212 Sweet natural buttermilk

Buttermilk, B:691

Sweet orange

Orange, 0:481 Sweet pea [plant], So:477 with picture Sweet potato [plant], So:477 with pic-

ture Sweet sorghum

Sorghum, So:44 **Sweet Violet**

Violet, V:397 with picture

Sweet William [plant], So:478 with pic-

See also Carnation Pink. P:507

Sweetbread, So:478

Sweetbrier (plant) Eglantine, E:99

Swimming foot Swimming pool, So:489 Swimming race Swinburne Letters Iwork by Swin-Swinburne, Algernon Charles (English Swindon (England), So:490 Swine Swine flu Swing, The [painting by Fragonard] Syllogism Ci:461 with picture Fragonard, Jean Honoré, F:390 Aristotle (Logic), A:568 Swordfish, So:503 with picture Swing (music) Logic, L:362 Fish picture on, F:160 Band (History), B:75 Syarikat Telekom Malaysia Berhad Sylphide, La [ballet] Jazz (The Swing era), J:76 Ballet (Romantic ballet), B:56 Telephone (Malaysia), T:109 Swing bridge Dancing (The rise of romanticism), Sycamore [tree], So:503 with picture Bridge (Drawbridges), B:564 D:27 Wood picture on, W:299 Swing-wing Sylvester I, Saint [pope], So:515 Sydenham, Thomas [English doctor], Aeroplane (Wing), A:89 Sylvester II (pope), So:515 Swinhoe's egret [bird] So:504 Sylvia Scarlett [book by Mackenzie] Sydenham's chorea Egret (Kinds), **E:99** Mackenzie, Sir Compton, M:19 Swiss Alps Chorea, C:480 Sylvite (mineral) Sydenstricker, Pearl Switzerland, So:496 with map Potash, P:717 Swiss [fabric], So:490 See Buck, Pearl S.

662 Symbiosis Symbiosis, So:515 Fungi (How a fungus lives), F:485 Symbol. So:515 with pictures See also list of Related Articles Algebra (Symbols in algebra), A:255 Culture (Using symbols), Ci:491 Fraction (In symbols), F:384 Hieroglyphics, H:193 with pictures Indian, American (Writing), 1:149 with pictures Permutations and combinations (By using symbols and formulas). P:287 Propaganda, P:805 Symbolic logic Mathematics (Set theory and logic), M:256 Philosophy (Rationalism), P:424 Set theory (History), S:277 Symbolism, So:516 Baudelaire, Charles, B:158 Drama. D:299 French literature, F:445, 449 George, Stefan, G:101 Mallarmé, Stéphane, M:118 Poetry (Beginnings of modern poetry), P:616 Russian literature, R:500 Spanish literature (Modernism), So:198 Verlaine, Paul, V:346 See also Disquised symbolism Symcom [communications satellite] Telephone (History), T:109 Symmetry Crystal (Classifying crystals), Ci:469 Symons, George James British meteorologist). So:516 Sympathetic nervous system Nervous system (Automatic nervous system), N:82 with diagram Sympathetic ophthalmia Blindness, B:389 Ophthalmia, 0:476 Sympathy for the Devil [film] Godard, Jean-Luc, G:225 Symphonic ballet Massine, Leonide, M:247 Symphonic band See Concert band Symphonic concerto Concerto, Cl:272

Symphonic poem (music), So:516

Symphonium Harmonica, H:62 Symphony [music], So:516

Classical music (Orchestral music).

Orchestra (History), 0:488 Sonata, So:40 Symphony [music by Webern]

Webern, Anton, W:127 Symphony in B minor (symphony by

Paderewskil Padereweski, Ignace Jan, P:19

Symphony No.3 [music by Copland] Copland, Aaron, Ch340

Symphony of Three Orchestras Isymphony by Carterl

Carter, Elliot, C:213

Symphony orchestra

Orchestra, O:486: (The structure of a symphony orchestra) 0:488

Synagogue, So:517

lews (Foreign domination), 1:113 ludaism. I:155

Synapse

Brain (Brain cells), B:512; (The brain's chemical messengers) B:516 Nervous system (The dendrites), N:83

with diagram Synchro-cyclotron, So:517

Synchronized swimming

Swimming, So:487 with picture Synchronous generator [electricity] Electric generator (How AC generators work), E:148

Synchrotron, So:517

Particle accelerator (Kinds of accelerators). P:206 with diagram

Syncom [satellite]

Satellite, Artificial (Important satellites).

Syncopation [music] Fox trot. F:381

lazz (The roots of jazz), 1:75 Music (Rhythm), M:730

Syncope [poetry] Elision, E:211

Syndicalism (labour movement), So:517 Collectivism, Ci:165

Sabotage, S:5 Syndicate

Crime (Organized crime), Cl:436

Syndics, The lpainting by Rembrandtl Rembrandt (The last years: 1640-1669), R:211

Synecdoche

Metonymy, M:384

Synge, John Millington (Irish dramatisti, So:518

Irish literature (The Irish literary revivall. 1:383

Realism (In drama), R:160

Synhedrion

Philip II, P:366

Synneve Solbakken work by Bjørnson Bjørnson, Bjørnstjerne, **B:373**

Synod of Whitby

United Kingdom, History of, U:129

Synonym. So:518

Synopsis

Writing (Preparing and submitting a manuscript), W:422

Synoptic Gospels

Bible (The Gospels), B:273

Gospels, G:262

New Testament (The public ministry of (esus), N:136

Synoptic-scale circulation

Wind (Causes of wind), W:267

Synovial capsule [anatomy] Knee, K:297

Synovial fluid [anatomy]

Elbow, E:136 Joint, J:136

Knee, K:297 Synovial membrane [anatomy] Carpal tunnel syndrome, C:208 with diagram

Membrane (Serous membranes).

M:341

Syntagma Square

Athens (Landmarks), A:703 with picture

Syntax [grammar], So:518

Language (Grammatical structure), 1.50

Linguistics (The components of a grammar), L:293

Semantics, S:246

Synthesis gas

Petrochemicals, P:328

Synthesizer (musical instrument). So:518 with picture Electronic music, E:180 with picture

Jazz (Fusion), J:78; (The late 1900's) 1:79 Music (Electronic instruments), M:729 Popular music (Pop music), P:683

Rock music (Characteristics of rock music), R:311

Synthetic dve

Dye. D:362 Synthetic environment

Virtual reality, V:405

Synthetic fibre Fibre, F:66, F:67

Fur (Artificial fur), F:489

Rope, R:394

Textile (Sources of textile fibres), T:169

Synthetic fuel, So:518 Fuel. F:478

Synthetic gem

Gem (Imitation and synthetic gems), G:73

Synthetic hormone Hormone, H:280

Synthetic resin

See Resin, Synthetic Synthetic rubber

Edison, Thomas Alva (Inventorindustrialist of West Orange), E81

Rubber, R:429, R:436 with picture Synthetic theory

Evolution, E:412

Synthetics, So:519

See also list of Related Articles

Synthetism (art)

Gauguin, Paul (Early life), G:63

Syon House

Stately homes of Britain and ireland (table), So:300

Syphilis, So:519

Ataxia, A:704

Disease (table), **D:190**

Wassermann, August von, W:64

Syracuse [Sicily], So:519

Syracuse [U.S.A.], So:519

Syracuse, Battle of [414-413 B.C.] Army (Famous land battles), A:593

Syria, So:520 with pictures and map

See also list of Related Articles Aviation (Aircraft nationality marks),

A:001

Damascus, D:16 with pictures Egypt (The United Arab Republic),

F:118

Wine. W:273

Tableau of French Poetry book by

Flag picture on, F:206 fordan (The 1967 war). 1:145 Jehanon (War and terrorism), L:148 United Arab Republic, U:41 World War II (table: The Allies), W:381 Syrian Desert, So:526 trag (The desert), 1:344 lordan, J:143 Syrian hamster Hamster, H:37 Svringa Mock grange, M:525 with picture Syringe, So:526 Hypodermic injection, H:416 with pic-Syrinx (Greek mythology) Pan. P:111 Syrup Corn syrup, Cl:357 Maple syrup, M:193 Molasses, M:528 Sorghum, So:44 System (biology) Human body (Organs and organ systems). H:351 Life (Tissues, organs, and organ systems), L:248 Systematic assessment Psychology, P:828 Systematic colonization Australia, History of (South Australia), Systematic Theology [book by Tillich] Tillich, Paul, T:248 Systematics Biology, B:304 Classification, Scientific, Cl:66 Systemic circulation Circulatory system (in respiration), Cl:7 Heart (Birds and mammals), H:114 Systemic insecticide Insecticide, 1:263 Systemic lupus erythematosus (SLE) Lupus, L:417 Systems analysis, So:526 Systems ecologist Ecology (Ecosystems), E:57 Systems physiology Biomedical engineering, B:312 Heart (table), H:102; (Regulating the heart rate) H:103: (Regulating blood pressure) H:104 Systolic pressure Blood pressure, B:402 Heart (Regulating blood pressure), H:104 Szczecin [Poland], So:526 Pomerania, P:663 Széchenyi, Count Stephen [Hungarian political leader Hungary (Turkish and Habsburg rule), H:381 Szell, George [Hungarian-born musiclan), So:526 Szilard, Leo (American physicist),

Nuclear energy (The development of

nuclear weapons), N:329 Szuros, Matyas | president of Hungary Hungary (Recent developments), H:383 T lletter]. T:1 with pictures Blood (Protecting against disease), B:396: (Formation of new blood components) B:398 Immune system (Parts of the immune system). 1:38: (The immune response) 1:40: (The autoimmune response) I:42 Interleukin, I:291 Thymus, T:234 plants), T:263 T-beloer cell AIDS (Cause), A:179 T Tauri (astronomy) Taurus, T:68 Ta [symbol] Tantalum, T:30 Tabbouleh [food] West Bank (People), W:157 Tabby

Tissue transplant (Types of trans-Tuberculosis (Primary infection), T:432 Cat (Coat), C:245 **Tabby** weave Weaving (The plain weave), W:124 with picture Tabernacle, T:2 with picture Ark of the Covenant, A:575 Fxodus, E:416 Moses (The covenant with God), M:632 Tahernacies, Feast of Sukkot, So:397 Tabes idisorderl, T:2 **Tabes dorsalls** Tabes, T:2 Tabka Dam Syria picture on, So:523 Tabla [musical instrument] India, Dance and music of (Musical instruments), 1:94 with picture

Sitar, S:457

Table loom

Table wine

Table Bay (painting by Bowler)

Weaving (Kinds of Ioom), W:125

Western Cape (Land and climate),

W:184 with picture

Table service restaurant

Table Talk (work by Hazlitt)

Table tennis, T:3 with pictures

Olympic Games table on, 0:440

Hazlitt, William, H:92

Restaurant, R:241

Sainte-Beuvel Sainte-Beuve, Charles Augustin, S:47 Tablet (writing) Book (Early books), B:455 with picture Communication picture on, Ci:230 Tableware Ceramics, C:325 with picture Tabloid Newspaper (Kinds of newspapers), NATIO Taboo, T:3 Magic (The magician), M:45; (Homeopathic magic) M:45 Mythology, M:762 Tabriz [tran], T:4 Tacamahac (tree) Poplar, P:681 Taché, Sir Étienne-Paschal (Canadian statesmanl, T:4 Tachometer, T:4 Log. L:358 Tachycardia, T:4 Drug (Antiarrhythmics), D:312 Heart (Abnormal heart rhythms), H:109 Tachyon (elementary particle), T:4 Tacitus, Cornellus (Roman historian), T:4 Agricola, Gnaeus Julius, A:160 Biography (Early biographies), B:301 History (Ancient times), H:225 Lithuania (History), L:331 Sweden (Early times), So:472 Tack Horse (Riding equipment), H:294 Tacke, Ida [German scientist] Rhenium, R:250 Tackle Block and tackle, B:391 with pictures Tacloban (Philippines), T:5 Taconite. T:5 with picture Iron and steel (Kinds of Iron ore), J:388 Tactile corpuscie Touch (Kinds of touch organs), T:309 Tactile hair Cat (Senses), C:245 Hair, H:10 Mammal (Skin and hair), M:127 Tactile nerve Mammal (Touch), M:130 Tactile sense Touch, T:309 Tactual map Map (Drawing and reproduction), M:189 Tadpole, T:5 with picture South Africa, Art of picture on, So:71 Animal (Adaptations for breathing), A:399 Frog, F:467 with picture Table Mountain [South Africal, T:2 Metamorphosis (Other examples), M:378 with picture Toad (The life of a toad), T:268 Tadzhikistan See Tajikistan Taegu (South Koreal, T:6 Tael [money], T:6 Tafari, Ras See Haile Selassie I

664 Tête-bêche error Tête-bêche error Stamp collecting picture on, So:272 Taff-Ely [Wales], T:6 Taffeta, T:6 Taft, Lorado (American sculptor), T:6 with picture and portrait Taft, William Howard U.S. presidentl, T:6 United States, History of the (Federal legislation). U:255 Tag locks Wool (Types of wool), W:310 Tagalog [language] Philippines (Languages), P:372 Tagle, Eduardo Frei Ruíz [Chilean president Chile (Chile today), C:426 Taglioni, Filippo litalian choreographerl Ballet (Romantic ballet), B:56 Tagiloni, Marie, T:7 Taglioni, Marie (Swedish dancer), T:7 Ballet (Romantic ballet), B:56 with pic-Tagore, Rabindranath [Indian writer], T:7 Bangladesh (Arts), B:85 India, Art of (The colonial and modern periods), I:89 with picture India, Literature of (Indian romanticism), 1:128 India, Literature of (The birth of nationalism), 1:128 Nobel Prizes (Literature), N:232 Tagua Peccary, P:240 Tagus River [iberian Peninsula], T:7 Lisbon, L:306 Portugal (Rivers), P:702 with map Spain (The Meseta), So:176 with map Tahiti (South Pacific), T:7 with picture Cook, James, Ch327 See also Gauguin, Paul; Society Islands Tahr (animal), T:8 Talga Forest (Boreal forests), F:346 Russia (Land regions), R:475 Tall Izoologyi, T:8 Animal (Fins, tails, and flippers), A:398 with picture Cat (Body size and structure), C:244 Dog (Body structure), D:223 Tail-twining

Titi, T:266 Talled frog Frog, F:468 Tailorbird, T:8 with picture Bird (picture: Kinds of bird nests), **Taliplece** Violin (Parts of the violin), V:397 Taine, Hippolyte Adolphe [French intellectuall, T:9 French literature (Naturalism), F:449 Taino-Arawak |people| West Indies, W:163; (History) W:171 Tainter, Charles S. (American scientist) Record player (History), R:166 Taintor-gate dam

Dam (Other kinds of dams), D:13 Talpan [snake], T:9 with picture Taipel [Taiwan], T:9 Taiping Rebellion [1850-1864] China, C:461 Nanjing (History), N:15 Taira (japanese history), T:9 Japan (Rise of the Shoguns), J:56 Japanese literature (The medieval period), J:64 World, History of the picture on, W:346 Talwan, T:9 with pictures and map Asia (Korea and Taiwan), A:641 Asia (Way of life in East Asia), A:638; (Korea and Taiwan) A:641 Chiang Kai-shek (Communist triumph), C:389 China, C:430 Flag picture on, F:206 Mao Zedong (His life), M:173 Taipel, T:9 with picture Taizé community

Religious life (Protestant churches), R:209 Taj Mahal, T:12 Agra. A:160 Architecture (Indian architecture). Asia picture on, A:623 Building construction, B:626 India, I:56; picture on I:57 India, History of (The later Mughal emperors), I:110 Shah Jahan, S:296 Taj Mahal Hotel Bombay picture on, B:440 Tajik language Tajikistan, T:13; (People) T:13 Tajlkistan, T:13 with picture and map Commonwealth of Independent

Dushanbe, D:356 Flag picture on, F:206 Tajikistan (People), T:13 Union of Soviet Socialist Republics (People), U:29 Tajo River See Tagus River Takahe (bird), T:15 Takaki, Kanehiro (Japanese doctor) Vitamin (History), V:412 Takdir Aiisjahbana, Sutan, T:15

States, Ci:222

"Take-away-borrow" method Subtraction (Other ways to subtract), So:376 Take-home pay Wages and hours (Wages), W:2

Take It Easy book by Runyonl Runyon, Damon, R:459 Take-up reel

V:370

Tape recorder (How tape recorders work), T:38 Videotape recorder (Recording),

Takeaway food Restaurant (Table-service restaurant). R:241

Takeover Conglomerate, Cl:279

Takin [mammal], T:15 with picture Taklimakan Desert [China], T:15

Takraw [sport] Thailand (Recreation), T:181

Taksin, General Phyra (king of Thai-Jandl

Thailand (A new dynasty), T:184 Talal I [king of Jordan]

Jordan (The Palestinian conflict), 1:144 Talbingo dam Dam (Some important dams), D:14

Talbot House Toc H, T:273

Talbot, Gilbert [British soldier] Toc H, T:273

Talbotype (photography), T:15 with pic-

Communication (in the early 1800's),

Photography (Early developments), P:461

Taic, T:16 Hardness, H:58 Mineral (Hardness), M:486; picture on

Tale of a Tub, A (book by Swift)

Swift, Jonathan (Swift's other works),

Tale of Genji, The [book by Murasaki] Japanese literature (The Helan period),

Murasaki Shikibu, M:705

Tale of Peter Rabbit, The book by Potter]

Potter, Beatrix, P:721

Tale of the Bamboo Cutter, The

Japanese literature (The Helan period),

Tale of the Helke, The book Japanese literature (The medieval period), J:64

World, History of picture on, W:346 Tale of Tsar Saltan, The Imusic by

Rimsky-Korsakov

Rimsky-Korsakov, Nikolai, R:278

Tale of Two Cities, A [operal Benjamin, Arthur, B:239

Talent [money], T:16 **Talent Education**

Suzuki method, So:452

Tales for the Bush [book by Vidal] Australia, Literature of (The develop-

ment of the novel), A:830 Tales of an Army Surgeon (book by

Topelius Topelius, Zachris, T:299

Tales of Hoffmann, The loperetta by Offenbachl

Hoffmann, Ernst Theodor Amadeus, H:240

Offenbach, Jacques, 0:415 Tales of Mother Goose book by Per

raultl Perrault, Charles, P:289 Tales of Old-Time Texas (book by

Dobiel

Dobie, J. Frank, D:219 fales of the Colonies (book by Row-Australia, Literature of (Early prose), A:830 fales of the Convict System (story by Astley Australia, Literature of (Short stories), A:832 Tales of the Grotesque and Arabesque (work by Poel Poe, Edgar Allan (Midcareer), P:608 Tales (book by Topelius) Topelius, Zachris, T:299 Tallm, B. V. [Indian sculptor] Sculpture (Figurative form), S:216 Talipes Clubfoot, Ci:116 Tallpot palm Palm (The leaves), P:106 Talisman, The book by Scottl Scott, Sir Walter, S:174 Talkative Man, The [book by Narayan] Narayan, R. K., N:24 Talking book Blindness (Aids for blind people), B:389 with picture Book (Modern books), B:458 Handicapped (Special education), H:46 Library (Services for special groups), Tape recorder, T:37 Talking Trees, The [book by O'Faolain] O'faolain, Sean, O:415 Tall oil rosin Rosin, R:402 falkhief, Maria [American ballerina], T:16 with picture falleyrand (French statesman), T:16 See also French Revolution Tallon [Estonia], T:17 Estonia, E:335 with picture Tallis, Thomas (English composer), T:17 fallow, T:17 Tallowtree, T:17 with picture Talmud, T:18 Akiva Baer ben Joseph, A:222 Hebrew language and literature (Beginnings), H:129 lews (The Talmudic period), J:114 ludaism, J:155 Animal picture on, A:402 Eagle, E:2; (Feet and legs) E:2 Owl (Appearance), O:528 amtam percussion instrument Gong, G:252 with picture Tamalus Costa Rica (Food), Ci:375 Malze (Food for people), M:71 Mexico (Food and drink), M:405 Tunan Mini lakarta (Places of interest), J:13 Tamara (Queen of Georgia) Georgia (History), G:103 lunarau

Water buffalo, W:84

lamarin (animal), T:18 with picture

South Africa, History of (Opposition to apartheid), So:85 Tamboura Imusical instrument Serbia (People), S:266 Tambourine [percussion instrument], T:19 with picture Music (Percussion instruments), M:729 Tamburiaine the Great lplay by Marlowe) Marlowe, Christopher, M:215 Tameriane and Other Poems ipoetry Poe, Edgar Allan (Early literary career), P:608 Tamerlane (Asian conqueror), T:19 Georgia (History), G:103 Turkmenistan (History), T:468 Tameside (England), T:19 Tamil India, Languages of (Dravidian languages), 1:123 Tamil Nadu (state, India), T:19 with pictures and map Tamils [people] Asia (The people), A:633 Sri Lanka (People), So:256; (History) 50:258 Taming of the Shrew, The Iplay by Shakespeare Shakespeare, William, S:310 Tammar [animal], T:23 Tammuz (month) Calendar (The Hebrew Calendar), C:34 Tamoxifen [drug] Mastectomy, M:248 Tampa [U.S.A.], T:23 Tampere (Finland), T:23 Finland (Ancestry and population), F:116 Tampico [Mexico], T:24 Mexico (The Gulf Coastal Plain), M:411 Tampon Toxic shock syndrome, T:320 Tamworth [Australia], T:24 Tamworth (England), T:24 Tamworth Castle (England) Staffordshire (Places to visit), So:261 Tan Chee Khoon (Malaysian politician), T:24 Tan Cheng Lock (Malayan politician), Tan Kah Kee (Singapore businessman), T:24 Tan Malaka, T:24 Tan Teng Kee (Malaysian-born sculp-Sculpture (Environmental sculpture), Tan Tock Seng [Singapore businessmani, T:24 Tana, Lake See Lake Tana Tanager, T:25 with picture **Tananarive**

Tamarind (tree), T:18 with picture

Tamarisk [tree], T:18

See Antananarivo Tandem Bicycle (Speciality bicycles), B:281; pic-Tamayo, Rufino [Mexican painter], T:19 Tambo, Oliver [African political leader], ture on B:282 Tandem system Hydrofoil (Kinds of hydrofoils), H:401 Tandem Van de Graaff Van de Graaff generator, V:308 Tandoor (oven) India (Food), 1:65 Tandridge [England], T:25 Tang dynasty [Chinese historyl, T:25 Asia (Nomadic invasions), A:658 with China (Sculpture and pottery), C:447; (The Tang dynasty) C:459 [Chinese history],, T:25 Chinese literature (Poetry), C:470 Li Yuan, L:202 Sculpture (China), \$:200 World, History of the (China), W:345 Tang Gaozong [Chinese ruler] Tang dynasty (The rise of the dynasty), Tang Taizong (Chinese ruler) Tang dynasty (The rise of the dynasty), Tang Xuanzong lemperor of Chinal Tang dynasty (The middle years), T:26 Tanganyika African National Union (TANU) Tanzania (Independence), T:36 Tanganyika Tanzania (Independence), T:36 Tangaroa [Polynesian god] Sculpture (Pacific Islands sculpture), S:204 with picture Tange, Kenzo Ijapanese architecti, T:27 Tangelo (fruit), T:27 Mandarin, M:149 Tangent imathematics Trigonometry (Right-angled triangles), T:401 with diagrams Tangerine [fruit], T:27 with picture Orange (Mandarins), 0:482 Tangelo, T:27 Tangor, T:27 Tangler [Moroccol, T:27 Tanglewood Tales | book by Hawthornel Hawthorne, Nathaniel (His stories and sketches), H:88 Tango [dance], T:27 Dancing, D:28 Tangor (fruit), T:27 Tanizaki jun'ichtro (japanese author) Japanese literature (The modern period), J:64 Tank [military vehicle], T:27 with picture Tank Stream [Australia], T:28 with pic-Phillip, Arthur (To Port Jackson), P:416 Tanka See also Japanese literature Japan (Recreation), J:43 Tanker [ship], T:29 with picture Ship, S:379; pictures on S:380 Tanner, Beatrice Stella

Campbell, Mrs. Patrick, C:63

Tapetum lucidum [zoology]

Eye (Eyes of animals), E:444

Cat (Head), C:244

Old Testament (Translations), 0:429 Tanner, Henry Ossawa [American Mammal (Sight), M:129 Tari seedati (dance) Tapeworm, T:40 with picture painter! T:29 with picture Animal (Adaptations for breathing), Sumatra (People), So:43 Tannhäuser [German minstrel], T:30 Tariff, T:43 4-399 Tannhäuser [opera by Wagner] Economics (World trade), E:64: table Cat (Veterinary care), C:253 Wagner, Richard (Early career), W:3 on F:65 Parasite (Parasites that feed on people Tannic acid, T:30 International trade (Government trade and animals), P:171 Tannin Worm (Flatworms), W:411 policies), 1:297 Tannic acid, T:30 Tapioca [food], T:41 Japan (Foreign trade), J:54 Tanning Taxation (Taxes on transactions), T:69 See also Cassava Lactic acid, L:11 Tarka the Otter [work by Williamson] Tapiola [Finland], T:42 Leather, L:141 Williamson, Henry, W:259 Tannic acid, T:30 Tapir [animal], T:42 with picture Tarkington, Booth (American author), Animal pictures on, A:389 Tansen [Indian musician] T:45 with portrait India, Dance and music of (History), Tappan, Lewis Abolition movement (In the United Tarnish, T:46 Rust. R:504 Tansy [plant], T:30 States), A:13 Silver (Properties of silver), S:428 Tantalum (element), T:30 Tapping [espionage] Tarnished Lady [film] Industrial espionage (Espionage tech-Tantalus [Greek mythology], T:30 niques), I:208 Cukor, George, Cl:488 Tanzania, T:31 with pictures and map Taro [plant], T:46 with picture See also list of Related Articles Telephone tapping, T:111 Pacific Islands (Food), P:6 Aviation (Aircraft nationality marks), Tapping [industrial process] Papua New Guinea (Way of life), P:142 Chicle, C:42 with picture AIB81 Solomon Islands (People), So:31 Flag picture on, F:202 Machine tool (Hole machining), M:16 Tanzanite (gemstone), T:37 Rubber (Tapping the tree), R:432; pic-Tarot card Divination, D:205 Tao Te Ching (book) ture on R:434 Magic (From the 1500's to the 1700's), Laozi, L:61 **Taproot** Taoism (Taoism as a philosophy), T:37 Plant (Roots), P:553 with picture M:46 with picture Taoiseach [title] Root (Kinds of roots), R:392 with pic-Tarpan (animal), T:46 with picture Ireland, Government of, 1:363 ture; (The importance of roots) Tarpon [fish], T:46 Oireachtas, 0:421 Fish (Fish of coastal waters and the R/39II Taolsm, T:37 with picture open sea) picture on, F:161 Tree (Roots), T:378 Tarquinius Priscus, Lucius llegendary China (Religion), C:444 Vegetable (Roots), V:322 Chinese literature (Beginnings), C:469 Tagiyah (clothing) figurel, T:47 Tarquinius Superbus, Lucius, the Laozi, L:61 Sudan (Clothing), So:382 Philosophy (Oriental philosophy), Proud [legendary figure], T:47 Tar, T:42 Tarquinius, Sextus (legendary figure), P:422 Tar sands Religion (How the major religions are Bituminous sands, B:373 T:47 organized), R:200; (Taoism) R:203 Petroleum (The United States and Can-Tarragon [plant], T:45 with picture ada), P:338 Tarsal bone Zhuangzi, Z:493 Tarabulus Foot (The bones), F:316 Tarsier [mammal], T:47 with picture Tap [plumbing] See Tripoli Plumbing (How taps work), P:602 with Tarantella [dance], T:42 Primate picture on, P:777 diagram Tarantism [disease] Tarsus [Turkey], T:47 Tap [tool] Tarantula, T:43 Tartan [design], T:47 with pictures Tool (Metalworking tools), T:297 Tarantula [spider], T:43 with picture Clan. Cl:51 Tap-dancing Animals picture on, A:388 Scotland (Traditions), S:161 Dancing (The rise of romanticism), Insect picture on, 1:260 Tartar D:27 Teeth (Dental checkups), T:93 Spider, So:222 with picture; (Chelice-Tapa cloth rae) So:219 with picture; (table) Tartar emetic, T:49 Pacific Islands (Clothing), P:7 So:225; picture on So:217 Tartaric acid, T:49 Tartarin of Tarascon (work by Daudet) Tarawa [Kiribati], T:43 Woodworking (Planning and design), Kiribati, K:287 Daudet, Alphonse, D:42 Tartarin over the Alps work by Dau-W:307 World War II (Island hopping), W:399 Tape recorder, T:37 with picture Tarbela dam detl Communication (The development of Dam (table), D:13 Daudet, Alphonse, D:42 modern communication), Ci:234 Taree (Australia), T:43 Tartars (people) High-fidelity system, H:197 with pic-Tarentum See Tatars Tartarus [Greek mythology], T:49 Rome, Ancient (History), R:377 Record player (How gramophone rec-Target itelevision Tartary [region], T:49 Tartini, Gluseppe [Italian violinist], T:49 ords are made), R:164 Image orthicon, 1:34 Taper-tip philodendron Target designator Tartu (Estonial, T:49 Philodendron, P:419 Laser (Guiding), L:71 Tartuffe [play by Molière] Tapered bag Drama picture on, D:284 Target game Camping (Sleeping bags), C:65 Game [recreation], G:24 Tasajo [food] Tapestry, T:40 with pictures Targioni-Tozzetti, Giovanni Italian li-Pemmican, P:250 Needlepoint, N:67 Tashkent [Uzbekistan], T:49

Opera (Cavalleria Rusticana), 0:469

Bible (The first translations), B:275

Targum

Asia (Life of the people), A:643

Uzbekistan, U:292

Tasma [Australian writer]

667

Australia, Literature of (The develop-Tata, Jamshedii Nasarwaniu, T:66 Tay bridge Dundee, D:349 with picture Tata, Jeejibhoy Jamshedji, T:66 ment of the novel), A:830 Tata, Jehangir Ratanji Dadabhoy, Tayside Region picture on, T:74 Tasman Bridge, T:50 Tay-Sachs disease, T:71 with pictures T:66 Tasman Peninsula, T:50 Birth defect (Causes), B:369 Tatami Tasman Sea, T:50 Heredity (table), H:169 Japan (City life), J:40 Pacific Ocean (Coastline and Islands), Races, Human (The founder effect), Tatars [people], T:66 R:49 Tasman, Abel Janszoon (The first voy-Kazan, K:204 **Tay Son** Moscow (History), M:630 age), T:49 Vietnam (Independence), V:380 Russian literature (The literature of Tasman, Abel Janszoon [Dutch ex-Tay, Waren [British doctor] Tatar captivity), R:496 plorer), T:49 Tay-Sachs disease, T:72 Tate Gallery, T:66 Australia, History of (First sightings), Taylor, Brook [English mathematician], Tate, Allen [American poet], T:66 A:798 Tate, Maurice [English cricketer], T:66 Dutch explorers, D:359 Taylor, Cecil [American composer] Exploration (Exploring the Pacific), Tattershall Castle [England] Jazz (New directions), J:78 Lincolnshire (Places to visit), L:288 E:425 with map; (table) E:426 Taylor, Edward [American poet], T:72 Tattooing, T:67 Netherlands (Prosperity and power), Tatum, Art [American planist], T:67 A:310 New Zealand, History of (Tasman and Jazz (The 1920's), J:75 Tatum, Edward Lawrle | American biothe Dutch), N:165 with picture chemistl. T:67 Tasmania (History), T:61 Cell (The 1900's), C:304 Tasmanian Aborigines (History), T:64 Taub [clothing] Tonga (History), T:295 Sudan (Clothing), So:382 Tasmania, T:51 with pictures and maps Taunton (England) See also list of Related Articles Somerset (Places to visit), So:38 Australia (The land), A:761 Taunton Deane (England), T:67 with Robinson, George Augustus, R:303 Squatters in Australia, So:248 Tauranga [New Zealand], T:68 with pic-Tasman, Abel Janszoon, T:49 ture Tasmanian Aborigines, T:63 with pic-Taurus [astrology], T:68 Taurus Mountains lanney, William, L:56 with portrait Turkey (The land), T:460 Robinson, George Augustus, R:303 Taussig, Helen Brooke iAmerican doc-Smith, Fanny Cochrane, S:498 torl, T:68 with portrait Tasmania (History), T:61 Tautog Tasmanian devil (animal), T:64 with Blackfish, B:379 Taverner, John [English composer], Marsupial (Kinds of marsupials), M:228 Tasmania, T:51 Tawang monastery Tasmanian thylacine Arunachal Pradesh (History), A:617 Tasmania, T:51 Tawney, Richard Henry (British histo-Tasmanian tiger, T:65 Tasmanian tiger, T:65 with picture rian), T:69 Tb (symbol) Tax farmer Marsupial (Kinds of marsupials), M:228 Taxation (History), T:70 Tasmania, T:51 Tasmanian wolf Taxation, T:69 See also list of Related Articles Tasmania, T:51 Tc (symbol) Inland revenue, I:235 Tass (news agency), T:65 Percentage, P:274; (Taxes) P:276 See also News service Tassel [botany] Poll tax, P:654 Property tax, P:809 Maize (Appearance), M:71 United States, History of the (Colonial lasso, Torquato litalian poetl, T:65 reaction), U:240 Taste, T:65 with diagram Value-added tax (VAT), V:304 Animal, A:400 with picture Taxco [Mexico], T:71 Dog (Senses), D:224 Fish (Smell and taste), F:171 Taxl [vehicle], T:71 Jinrikisha, **J:120** with picture Insect, 1:253 TDD idevice Pedicab, P:241 with picture Mammai, M:129 Taxidermy, T:71 with pictures Nose, N:303 Senses, S:255 Taximeter Smell (Taste and smell), S:496 Taxi. T:71 Tongue, **T:295** Тахопоту Taste bud Biology, B:304 S:96 Taste, T:65 Botany, B:479 Classification, Scientific, Cl:66 Te (symbol) Tongue, **T:296** Taste for Death, A [book by James] Science (Other branches), S:141

Zoology (What zoologists study),

Z:506

Tay Iriver, Scotlandl, T:72

James, P. D., J:23

India (Manufacturing), 1:74

iata steel mills

American literature (New England), Taylor, Elizabeth [American actress], Taylor, G. A. |Australian aviator|, T:73 Taylor, Jeremy English preacherl, T:73 Taylor, John Henry [English golfer], Taylor, Joseph Leslie Theodore See Taylor, Squizzy Taylor, Sir Geoffrey English physicistl, Taylor, Sir Gordon [Australian avlator], Taylor, Squizzy [Australian criminal], Taylor, Zachary U.S. presidenti, T:73 Taylor's theorem Taylor, Brook, T:72 Tayra (animal), T:73 with picture Tayside Region (Scotland), T:73 with See also list of Related Articles Arms picture on, A:589 See Tuberculosis Terbium, T:153 Tbilisi (Georgia, Asia), T:76 Georgia, G:101; picture on G:103 Technetium, T:81 TCDD |chemical| Dioxin, D:183 Tchaikovsky, Peter IIIch (Russian composerl, T:76 with portrait Ballet (Original music), B:53 Classical music (The romantic era), Ci:61 with picture Overture, 0:526 Deafness (Special aids and communication techniques), D:57 with pic-TDRS [satellite] Satellite, Artificial (Important satellites), Tellurium, T:136 Te Kanawa, Dame Kiri New Zealand opera singerl, T:77 with portrait Te Kooti (Maori leader), T:77 with por-

trait New Zealand, History of (The New Zealand Wars), N:170 Te Ranga [New Zealand] New Zealand, History of (The New Zealand Wars), N:170 Te Rauparaha [Maori chief], T:77 with portrait Tea, T:77 with pictures Agriculture picture on, A:162 Caffeine, C:14 China picture on, C:454 India (Agriculture), 1:72 Indian, American (Food), I:139 Japan (Agriculture), J:51 with picture Java (Economy), J:68; picture on J:71 Kenya (Agriculture), K:229 with picture Tea Act [1773] American Revolution, A:324 Tea taster Tea (Grades of tea), T:79 Teach, Edward See Blackbeard Teacher Nursery school (The teacher's role), Teacher's Word Book book by Thorn-Thorndike, Edward Lee, T:226 Teaching Clothing, Ct:108 Education (Learning and teaching), Mathematics, M:261 Reading (The teaching of reading), R:152 Thorndike, Edward Lee, T:226 United Kingdom, Educational systems of the (The teaching profession), Teagarden, Jack [American jazz musician], T:79 Teak, T:79 with picture Teal [bird], T:80 with picture Team roping Rodeo, R:330 Teapot Dome (U.S. history), T:80 Chemical-biological-radiological warfare (Chemical), C:364 Tears [secretion], T:80 with picture Disease (Barriers), D:195 with diagram Eye (The outer parts), E:435 with pic-Teasel [plant], T:81 with picture Teatree [tree], T:81 Tebaldi, Renata (Italian singer), T:81

with portrait

Technical efficiency

Technetium [eiement], T:81

Industry (Performance), 1:226

Pen (Speciality pens), P:251

Tebet [month]

Technical pen

Technical writer

Tebbit, Norman [British politician], T:81

Calendar (The Hebrew Calendar), C:34

Technical drawing, T:81 with pictures

See also list of Related Articles City (Advances in technology), Cl:21 Economics (Making the economy grow), E:61 Education (The Age of Reason), E:94 Industry, I:222 Queen's Awards for Export and Technology, Q:12 with picture Science (The importance of science), S:138 with picture Space exploration (Expanding space activities). So:162 Technology assessment Technology (Preventing undesirable effects), T:88 **Tectonics** See Plate tectonics Tecumseh [American Indian leader]. T:89 with picture Tedder, Arthur William (British military leaderl, T:89 Teddy bear cholla [plant] Cactus (Kinds of cactuses), C:10 Golf (The course). G:244 Teel's Island (painting by Wyeth) Wyeth, Andrew picture on, W:426 Teenager See Adolescent Tees Iriver, England), T:89 with picture Teesdale (England), T:89 Teeth, T:90 with pictures See also list of Related Articles Animal (Teeth and jaws), A:399 with Baby (From 6 to 12 months), A:8 Beaver, B:176 with picture Dog (Body structure), D:223 Goat (Digestive system), G:222 Horse, H:293 Periodontitis, P:282 Prehistoric people (Prehuman ancestors), P:751; (The first human beings) P:751 Teething Teeth (Deciduous teeth), T:90 Tegu [reptile], T:98 Tegucigalpa [Honduras], T:98 Honduras, H:259 with picture Teheran [Iran], T:98 with picture Teheran Conference [World War II]. T:99 Tehran See Teheran Tehri dam Dam (Some important dams), D:14 Tehuantepec, Isthmus of [Mexico], T:99 Tehuelche Itribel Indian, American (Indians of the Marginal Regions), 1:163 Teifi [river, Wales], T:99 Teignbridge (England), T:99

Writing, W:421

Technicolor, T:82

Mumford)

Mumford, Lewis, M:699

Technology, T:83 with pictures

Technics and Civilization [book by

palaeontologistl, T:99 esuits, 1:95 Teiresias [Greek mythology] Odyssey (Odysseus describes his wanderings), O:412 Telu (reptile) See Tegu **Tekke Confederation** Turkmenistan (History), T:468 Tektite, T:99 Tel Aviv [Israel], T:99 with picture Tele-learning Open University, 0:455 Telecom Corporation of New Zealand Telephone (New Zealand), T:109 Telecom Éireann Post office, P:711 Telephone (Ireland), T:108 Telecommunication, T:100 with pictures See also list of Related Articles Deafness (Special aids and communication techniques), D:57 with pic-International Telecommunication Union (ITU), 1:297 Post office, P:711 Telecommunications Consultants Telephone (India), T:108 Teleconferencing Television (Closed-circuit television), T:120 Telegram See Telegraph Telegraph, T:101 with pictures See also list of Related Articles Cables (The Atlantic telegraph cable), Communication (In the early 1800's), CI:231 with picture Edison, Thomas Alva (Telegraph innovator), E:81 Morse, Samuel Finley Breese, M:618 Morse code, M:621 Telecommunication, T:101 Woods, Granville T., W:306 Telegraph plant [herb], T:104 Telegraphone Tape recorder (History), **T:39** Telephone (South Africa), **T:109 TeleMalta Corporation** Telephone (Malta), T:109 Telemann, Georg Philipp (German composer!, T:104 with portrait Telemetry, T:104

Space exploration (Space exploration

So:142

Teleology

Teleost [fish]

Teleological argument God (Ideas about God), G:225

God (Ideas about God), G:225

Mechanist philosophy, M:303

Philosophy (Metaphysics), P:420

terms), So:130; (Space probes)

Teilhard de Chardin, Plerre (French

Temple, Shirley [American film star],

Jerusalem (Ancient times), J:93 with

T:138

Temple in Jerusalem

Space exploration (Returning to the Remote control (Infrared remote con-Perch. P:279 earth), So:135; (Living in space) Telepathy, T:104 trol), R:212 with picture So:135; (How a space probe car-Extrasensory perception (What parap-Space exploration (Communicating rles out its mission) So:142 sychologists study), E:433 with the earth), So:138 with pic-Mind reading, M:480 trine Thermometer, T:215 Telephone, T:105 with pictures Venus, V:341 Vacuum tube, V:297; (Development of See also list of Related Articles the vacuum tube) V:299 Weather, W:111 Temperature, Body, T:137 Bell, Alexander Graham, B:229 Videotape recorder (In the television Bee (Regulating body temperature), Cables (Types of cables), C:4; (The industry), V:370 spread of telephone cables) C:6 **Television drama** R:186 Cold-blooded animal, Cl:159 Sound-powered telephone, So:54 Drama, D:300 Dinosaur (How dinosaurs lived), D:180 Telecommunication, T:101 Television programme Telegraph (The telegraph today), T:103 Television (Producing television pro-Fahrenheit, Gabriel Daniel, F:6 grammes), T:121 with pictures Fever, F:65 Telephone industry First aid (Heatstroke and heat exhaus-Television signal Telephone, T:108 Television (Receiving television sigtion), F:147 Telephone number Fish (How fish adjust to change), F:175 nals), T:132 Telephone (How a telephone works), Homeostasis, H:254 T:105 Telex Telegraph (Faster and better service), Hypothermia, H:417 Telephone tapping, T:111 Perspiration, P:302 T:103 Telephone transmitter Races, Human (Climatic adaptations), Western Union Telegraph Company, Edison, Thomas Alva (The Wizard of Menlo Park), E:81 W:193 Warm-blooded animal, W:40 Telford, Thomas [Scottish engineer], Telephoto, T:111 Temperature-humidity index (THI), T:136 Telephoto lens Caledonian Canal, C:33 Camera (Single-lens reflex camera). Temperature scale Industrial Revolution (Roads), J:215 C:57 Thermometer, T:216 Tell, William (legendary figure), T:136 Teleprinter, T:111 Tempered board Communication (In business and inwith picture Wallboard, W:24 Lake of Lucerne, L:27 dustry), Ci:228 Tempered safety glass Tellegen, Benjamin D. H. IDutch engi-Telegraph (Sending a telegram), T:101 Glass (Kinds of glass), G:190 Telephone (Private lines), T:108 Tempering, T:137 Telescope, T:112 with pictures Vacuum tube (Development of the vac-Tempering (industrial process), T:137 See also list of Related Articles uum tube), V:299 Glass (How glass is shaped and fin-Teller, Edward [American atomic scien-Aberration, A:11 ished), G:193 Galileo, G:13 with pictures tist], T:136 See also Annealing Glass (Casting), G:193 Téllez, Gabriel Tempest, The Iplay by Shakespearel See Tirso de Molina Greenwich Observatory, Royal, G:365 Shakespeare, William, S:321 with pic-Hubble Space Telescope, H:336 Tellurium (element), T:136 ture; (His last years) S:303; (The Telstar [communications satellite] Instrument, Scientific, 1:267 with pic-Restoration period) S:326 Communication picture on, Ci:236 ture Templars, Knights Satellite, Artificial (Important satellites), Mount Wilson Observatory, M:664 See Knights Templars Newton, Sir Isaac (Light and colour), Temple, T:137 with picture Telephone (Telephone improvements), N:188; picture on N:187 See also list of Related Articles Observatory (Optical observatory), T:110 Architecture (Mesopotamian architec-**Telstra Corporation** ture), A:517 with picture; (Classi-Telephone (Australia), T:108 Palomar Observatory, P:110 cal Greek architecture) A:521 with Radio telescope, R:88 with pictures Temüjin picture Sun picture on, So:420 See Genghis Khan Egypt, Ancient (Arts and sciences), Surveying (Modern tools), So:446 Temazepam [drug] Telescopic sight F:126 Drug (Depressants), D:313 Greece, Ancient (The arts), G:349 Rifle (The parts of a rifle), R:274 Temper colour India, Art of (Cave temples), I:85 with Teletext Tempering, T:137 picture; (The Middle Ages) 1:86 Television (Televised information ser-Tempera with pictures Painting, P:43 with pictures vices), T:121 Indonesia (Dynasties and temples), Teletypesetter (TTS), T:117 Temperate deciduous forest 1:194 with picture Telephone (Private lines), T:108 Plant, P:547 Judaism (The synagogue), J:155 with Television, T:118 with pictures Temperate forest picture See also list of Related Articles Forest, F:347 Advertising, A:61 Sculpture (India), S:197 Temperate zone Tokyo, T:284 Cable (Recent developments), C:7 Rain (World distribution), R:116 World, History of the picture on, Communication (At school), CE228 Temperature, T:136 lconoscope, 1:25 W:336 See also list of Related Articles Temple Bar (England), T:138 Image orthicon, 1:34 Heat (Changes in temperature), H:119 Temple, Henry John lournalism (Fields of journalism), Jupiter, J:171 See Palmerston, Viscount Magnetism (Magnetism of materials), J:150; (Major issues In journalism)

M:57

Moon, M:587

Measurement, M:295

Metric system, M:386

1:151

P:839

Public opinion, P:838

Public opinion poll (Who uses polls?),

T:140

M:536 with picture Tennessee [U.S.A.], T:140 with picture picture Octopus, 0:409 lews (The Kingdom of Israel), J:113 and map Oyster (Body organs), 0:540 Palestine (Invasions and conquests), Tennessee Valley Authority (TVA), Portuguese man-of-war, P:708 P:103 Conservation (North America), Ch301 Slug, 5:495 Solomon, So:31 Tennessee walking horse Tenter frame Tishah be-av, T:263 Textile (Finishing the fabric), T:173 Horse picture on, H:287 Temple of ... Temples appear under their key Tennessee whiskey Tenth Muse Lately Sprung Up in Whisky, W:229 America, The lpoems by Bradwords, as in Artemis, Temple of Temple of the Golden Pavilion, The Tenniel, Sir John English cartoonistl, street lbook by Mishimal T:141 with picture and portrait American literature (New England), A:310 Mishima, Yukio, M:508 John Bull, J:130 Tenth Satire Iwork by Johnson Templer National Park [Malaysia] Tennis ball Kuala Lumpur (Places to visit), K:337 Tennis, T:142 Johnson, Samuel (Early years), J:134 Tents of Trouble (book by Runyon) Templer Park [Malaysia] Tennis, T:142 with pictures Runyon, Damon, R:459 Selangor (Places to visit), S:243 See also list of Related Articles Templer, Sir Gerald, T:138 Olympic Games table on, 0:440 Tenzing, Norgay Mount Everest, M:657 with picture Royal tennis, R:428 Temporal bone [anatomy] Ear (The outer ear), E:7; diagram on E:8 Tennis court Teo sinte [plant] Tennis, T:142 with pictures Maize (History), M:75 Head, H:92 with diagram Tennis racket Teocalli Skull, S:474 Aztec (Religion), A:899 with picture Temporal lobe (anatomy) Tennis, T:143 with picture Brain (The cerebrum), B:511 Tennis tournament Teotihuacán [Mexico] Penfield, Wilder Graves, P:257 Tennis, T:146 Maya (The Classic Period), M:280 Tennyson, Alfred Mexico (The Classical Period), M:417 Temporary magnet Pyramids (American pyramids), P:873; Magnetism, M:55 See Tennyson, Lord picture on P:875 Tempura [food] Tennyson, Lord (English poet), T:150 Japan (Food and drink), J:42 with portrait Tepee, T:153 Indian, American (Shelter), I:139 with Ten Commandments, T:138 Balaklava, Battle of, B:34 Moses, M:631 Elegy, E:195 picture; (Indians of the Plains) Religion picture on, R:201 Galahad, Sir, G:9 1:154 with picture Ten North Frederick (book by O'Haral January (Quotations), J:31 Tephra O'Hara, John, 0:417 Poetry, P:610 Volcano (Rock fragments), V:417 Ten Years' Digging in Egypt work by Tenochtitlan Teguila (drink) Mexico (Food and drink), M:405 Aztec, A:898 Petrie, Sir Flinders, P:328 Ter-Petrosyan, Levon [Armenian politi-Cortés, Hernando (Conquest), Cl:368 Tenant [law], T:139 Cuauhtémoc, Ci:471 cal leader) Tenant by copy of court roll Mexico (The Plateau of Mexico), Armenia (History), A:581 Villein, V:394 Terbium (element), T:153 M:410; (The Toitec and the Aztec) Tench [fish], T:139 Terence (Roman playwright), T:153 M:418; (The Spanish conquest) Terengganu [Malaysia], T:154 with pic-Tench, Watkin [British officer], T:139 M:418; map on M:420 Tender Tenor [voice], T:151 tures and map Teresa, Mother [Roman Catholic nun], Contract, Cl:317 Tenpins Tender Is the Night book by Fitz-See Bowling T:155 with portrait Teresa, Saint, T:155 Tenrec (animal), T:151 American literature (The lost genera-Tereshkova, Valentina Vladimirovna Tense (grammar), T:151 [Russian cosmonaut], T:155 with tion), A:317 Tension headache Tenderness [poetry by Mistral] Headache, H:94 portrait Space exploration picture on, So:146 Mistral, Gabriela, M:516 Tenskwatawa (American Indian leader) **Tendinitis** See Shawnee Prophet Term [mathematics] Algebra (Other definitions), A:256 Rheumatism, R:251 Tent, T:152 with pictures Tendon [anatomy], T:139 with picture Fraction (In symbols), F:384 Camping, C:65 Human body (Skeletal muscles), H:351 Geometry (Axiomatic organization), Lapland picture on, L:63 with diagram Prehistoric people (The first Homo G:95 Muscle (Skeletal muscles), M:713 sapiens), P:753; (Neanderthals) Progression, P:795 Tendril [botany] P:756 Term days Grape (Planting and cultivating), G:298 **Tent camping** Quarter days, Q:8 Leaf, L:131; picture on L:132 Term life insurance Camping, C:64 Insurance (Main kinds of life insur-Melon, M:338 Tent caterpillar [insect], T:153 with pic-Tendring [England], T:140 ture ance), 1:272 Terman, Lewis Madison American Essex (Local government), E:332 **Tent of Meeting** Tenement [housing], T:140 psychologistl, T:155 See Tabernacle Teng Hslao-p'ing Terminal bud (botany) Tent stitch See Deng Xiaoping Petit point, P:326 Bud. B:612 Tennant Creek (Australia) Plant (Stems), P:554 Tentacle, T:153 Northern Territory (Government), Coelenterate, Ci:150 Terminating decimal Rational number, R:143 Jellyfish, 1:82 Termination policy (legislation) Tennant, Kylie [Australian author], Mollusc (Univalves or gastropods), Indian, American (The termination pol-

M:535; (Octopuses and squids)

671

Libya (Libya today), L:239 R:226 icy), I:166 Termite linsecti, T:155 with pictures Northern Ireland (The continuing con-Animal (Group living), A:410 flict), N:275 Testimonial Turkey (Recent developments), T:465 insect (table), 1:262 Sioth bear, S:489 Terry, Dame Ellen [English actress], Testimony Terms of reference T:160 Royal Commission, R:417 **Tertiary colour** Witness, W:283 Tem [sea bird], T:157 with picture Colour (Producing colour harmony), Animal (Courtship behaviour), A:405 CI:198 **Tertiary forest** Arctic tern, A:549 picture Forest picture on, F:351 Temary form Classical music (Simple forms), Ci:58 **Tertiary industry** Industry (Other systems of classifica-Terneplate Tin (Uses), T:258 tion), 1:224 **Tertiary Period** Terno (clothing) P-226 Australia (Cenozoic Era), A:767 Philippines (Clothing), P:375 Earth (Outline of the earth's history), Terra Amata (France) Testicle, T:162 Prehistoric people (The first Homo Tertiary recovery sapiens), P:753 Petroleum (Enhanced recovery), P:347 Terra Australis Incognita with diagram Antarctica (Discovery of a new conti-Tetanus toxoid Tertis, Lionel British violinistl, T:160 nent), A:441 Tetanus, T:165 Tesla [unit of measure] Drake, Sir Francis (Voyage around the Magnetism (Magnetic fields), M:55 world), D:281 Tesla, Nikola [American inventor], Quiros, Pedro Fernandez de, Q:30 Terra Nova (ship) Electric generator (Uses of AC genera-Scott, Robert Falcon, S:174 Mountain, M:667 tors), E:148 Terracing Electric motor (History), E:155 Conservation (Soil conservation), Cl:294 with picture Acne. A:24 See Testing Erosion (Controlling erosion), E:323 Test [river, England] Philippines (Agriculture), P:385; pic-Hampshire, H:35 ture on P:369 Test Acts [religion], T:160 Terracotta, T:157 with picture **Test and County Cricket Board** Sculpture (Early Renaissance), S:211 Sculpture (Etruscan sculpture), S:207 Cricket (Administration), Cl:429 Sculpture (The sculptor at work), Test Ban Treaty [1963] S:192; (Prehistoric sculpture) with picture Fallout (History), F:18 S:194; (African sculpture) S:202 Kennedy, John Fitzgerald (Disarma-Terrain map Map (General reference map), M:183 ment), K:217 Terrapin [animal], T:158 with picture Nuclear weapon (Limiting testing), Terrarium, T:158 N:339 Gardening, G:40 **Test match** Furfural, F:492 Cricket (The international administra-Terre de Haut issland tion of cricket), Cl:428 Guadeloupe, G:390 with picture Terrier (dog), T:158 Test pilot, T:161 Dog (Terriers), D:232 with pictures **Test strip** Photography (Printing black-and-white Territorial sea photographs), P:454 H:108 Territorial waters, T:158 Territorial waters, T:158 Tetrathion Test tube baby, T:161 with diagram High seas, H:199 Infertility (Treatment), 1:229 Tetrode Territoriality [behaviour], T:159 Test Valley (England), T:162 Testament, The [book by Wiesel] Balance of nature, B:35 Dominance, D:254 Wiesel, Elie, W:245 Mammal, M:134 Testator Territory, T:159 leader], T:166 Will, W:254 Animal (Home ranges), A:409 **Testatrix** Prairie dog (Habits), P:738 Will, W:254 Wolf (Habits), W:285 Testes Terrorism, T:159 with pictures See Testicle T:166 Anarchism, A:350 Testicle, T:162 Animal (Sexual reproduction), A:404 Aviation (A new age of flight), A:885 Bombay (History), B:441 Gland (table), G:183 Human body (The reproductive sys-Guerrilla warfare, G:403

tem), H:358

Oestrogen, 0:413

Insect (Reproductive system), 1:251

Reproduction, Human (In males),

Hostage, H:317

Ku Klux Klan, K:336

Italy (Social problems), 1:471

Lebanon (War and terrorism), L:148

Testosterone, T:165 Advertising (Testimonials), A:63 Salesmanship (Presentation), S:50 Trial (Presenting evidence), T:396 Testing [evaluation], T:163 Drug (Testing with people), D:317 with Testosterone, T:165 Hormone (Growth and sex hormones), Reproduction, Human (In males), Steroid (Androgen), So:320 Tetanus [disease], T:165 Goat (Disease), G:223 Kitasato, Shibasaburo, K:290 Tetany [disorder], T:165 Tether a Dragon [play by Tennant] Tennant, Kylie, T:140 **Tethyan Mountain System** Tetra [fish], T:165 with picture Tetracycline, T:165 Antibiotic (table), A:456 Tetraethyl lead, T:166 See also Octane number Lead (Uses), L:124 Petrol (Petrol octane ratings), P:329 Tetragonal crystal Crystal (Classifying crystals), Cl:469 Tetrahedron [geometry], T:166 Polyhedron, P:661 Tetrahydrocannabinol (THC) Marijuana (Effects), M:206 Tetrahydrofuran (THF) Tetralodothyronine Thyroid gland, T:234 **Tetralogy of Fallot** Heart (Blockage of the blood flow), Pony club branches, P:670 Vacuum tube (Kinds of vacuum tubes), Tetzel, Johann [German religious Teuku Umar, T:166 Teutoburg Forest, Battle of Army (Famous land battles), A:593 Teutonic Knights [European history], Estonia (History), E:333 Latvia (History), L:104 Lithuania (History), L:331 Teutonic languages Language (Indo-European), L:52

Teutons, T:166

Teutons [Germanic peoples], T:166

See also list of Related Articles

tions (ASEAN), A:673

Association of Southeast Asian Na-

Aviation (Aircraft nationality marks),

Saudi Arabia (Food and clothing), Mythology (Teutonic mythology), A:881 5:106 M:761 Bangkok, B:79 Decorations, medals, and orders, D:75 The Americans, Baby Istory by Moor-Teviot [river, Scotland], T:166 housel Tewkesbury [England], T:166 Flag picture on, F:206 Royal families, R:421 with picture Australia, Literature of (Modern short Gloucestershire (Places to visit), G:213 Thalaba, the Destroyer poetry by Tewkesbury Abbey [England] stories), A:832 Sculpture (Later medieval sculpture), Southey) The Baptism of Christ [painting by Leonardo da Vinci) \$:210 with picture Southey, Robert, So:122 Tex[book by Hinton] **Thalamus** Leonardo da Vinci (Early career), L:177 The Boy's King Arthur book by Sidney Hinton, S. E., H:216 Brain (The brain stem), B:512 Texas [U.S.A.], T:166 with pictures Taste, T:65 Lanierl Literature for children, L:325 See also Alamo; Dallas; San Antonio Thalassaemia, T:185 The Buin-Buin and the Broiga [novel Mexico (War with Texas and the Thaler [money] United States), M:420 Dollar, D:249 by Furphyl Texas fever tick Thales (Greek philosopher), T:185 Australia, Literature of (Novels), A:832 Cattle tick, C:280 Geology (History), G:91 The Bush (book by O'Dowd) **Texas Panhandle** Thalia (Greek mythology) Australia, Literature of (Other poetry), Texas (Land), T:167 Drama picture on, D:287 A:831 Texas Rangers [U.S. police], T:168 Graces, G:281 The Cloud Messenger poem by Muses, M:717 Kalidasa) Sanskrit literature (The Classical pe-Literature, L:309 **Thalidomide** Textbook of Physics [book by Poynt-Drug (Testing with people), D:317 riod), S:75 Thallium [element], T:186 The Creation of Adam [painting] Poynting, John Henry, P:735 Michelangelo, M:434 Textile, T:169 with pictures Hornwort, H:284 The Crucifixion of Saint Peter [paint-Clothing (Available materials), Cl:93 Thames, River [England], T:186 with Interior decoration (Fabrics), 1:286 Michelangelo, M:435 picture on pictures The Defense of Corinth Ichoral work Invention (Economic needs), 1:310 Berkshire (Rivers), B:246 See also Weaving England (Rivers and lakes), E:271 by Carter Textile engineering London (Greater London), L:365; pic-Carter, Elliot, C:213 Engineering (Other specialized fields), The Deluge [painting by Leonardo da ture on L:369 E:258 River (table), R:290 Leonardo da Vinci (Last years), L:178 **Textile Industry** United Kingdom picture on, U:49 See also list of Related Articles Thames Flood Barrier The Divine Comedy(1321) [painting by India (Manufacturing), 1:74 London picture on, L:369 Michelangelo] Industrial Revolution (Growth of the Thamesdown [England], T:186 Michelangelo, M:436 Industrial Revolution). 1:212 Thanarat, Field Marshal Sarit (king of The Drover's Wife [story by Lawson] Industrial Revolution (Life during the Australia, Literature of (Short stories), Thailandl Industrial Revolution), 1:215 Thailand (After World War II), T:184 A-WELL Texture Thane (English history), T:186 The Electronic Encyclopedia lelec-Interior decoration (Pattern and tex-Witenagemot, W:283 tronic reference work Encyclopedia (New types of encycloture), I:283; (Choosing patterns Thanet (England), T:186 and textures) 1:285; picture on Kent (Local government), K:219 pedia), E:237 1:286 The Eye of the Storm [novel by White] Thanjavur (India) Painting, P:36 with picture Tamil Nadu (Places to visit), T:22 Australia, Literature of (Modern nov-Sculpture, S:192; pictures on S:214, Thanksgiving Day, T:187 els), A:832 S:217 The Fortunes of Richard Mahony Thant, U (Burmese diplomat), T:187 with Soil, So:21 [novel by Richardson] Textured vegetable protein (TVP) Australia, Literature of (Modern nov-United Nations (The secretary-general), Soybean (Soy meal), So:123 U:167 with portrait els), A:832 The Getting of Wisdom Inovel by Rich-Teyte, Dame Maggle (British singer), Thar Desert [India and Pakistan], T:187 T:177 with portrait Tharp, Twyła [American dancer], T:187 ardsoni Th [symbol] Australia, Literature of (Modern nov-Tharur, Shashi (Indian writer) Thorium, T:226 India, Literature of (Contemporary els), A:832 Thackeray, William Makepeace [Entrends), 1:129 The Grand Tour glish authori, T:177 with portrait That Was Then, This is Now book by Tourism, T:313 with picture The History of the Hoppers Hustra-Novel (Great Britain), N:312 Hinton] That (people) tion by Pietro Ventural Hinton, S. E., H:216 Indochina (The Viets), I:180 Thatcher, Denis Literature for children, L:318 The Infernal desire of Dr. Hoffman Laos (People), L:59 Thatcher, Margaret (Early life), T:188 Thailand (The people), T:179 Thatcher, Margaret (British political [book by Carter] Thai-style boxing leaderl, T:188 with portrait and pic-Carter, Angela, C:212 Thailand (Recreation), T:181 with pic-The Last Judgement United Kingdom, History of (The Michelangelo, M:434 The Life Divine [work by Aurobindo] Thailand, T:178 with pictures and maps United Kingdom today), U:153

Thatcher Memorial Fountain (sculp-

ture by Taft]

Taft, Lorado, T:6

Thawb [clothing]

India, Literature of (Indian romanti-

Australia, Literature of (Short stories),

cism), I:128 The Loaded Dog Istory by Lawson

A:832

The Man Who Loved Children [novel

by Stead]

Australia, Literature of (Modern novels), A:832

The Medici Chapei

Michelangelo, M:435 picture on

The Middle Ages

Literature (History), L:313

The Moods of Ginger Mick book by Dennisl

Australia, Literature of (Other poetry), A:831

The Mouldy lillustration by Nicola Bayleyl Literature for children, L:318

The Old Contemptibles Ibook by Grimes!

Grimes, Martha, G:376

The Old Musician text (illustration by Tomqvist!

Literature for children, L:317

The Passage (novel by Palmer)

Australia, Literature of (Modern novels). A:832

The Passion of New Eve (book by Carterl

Carter, Angela, C:212

The Power and the Glory Inovel by

Australia, Literature of (Modern novels), A:832

The short story

Literature (Forms of Literature), L:312

The Sistine Chapel [painting] Michaelangelo, M:433

The Story of Babar, The book by Jean de Brunhoff

Uterature for children, L:327

The Tale of the Ten Princes (novel by

Sanskrit literature (The Classical period), S:75

The tomb of Julius 11 Michelangelo, M:434

The Tree of Man (novel by White) Australia, Literature of (Modern novels), A:832

The Union Buries its Dead story by Lawson

Australia, Literature of (Short stories), A:832

The Virgin and Child [painting by Leonardo da Vincil

Leonardo da Vinci, L:177

The Voyage of Governor Phillip to Botany Bay (book by Phillip) Australia, Literature of (The Early Pe-

riod), A:830

The Wizard of Oz (book by Frank Baumi

Literature for children, L:326

Theatre, T:190

See also list of Related Articles Mask (Theatrical masks), M:243

Shakespeare, William (The Elizabethan theatre), S:306 with pictures

Theatre of the absurd

American literature (Drama), A:321 Drama, D:300 with picture

French literature (French drama of the mid-1900's), F:450

Theatrical dancing

Dancing (Dancing since 1900), D:28

Theatrical mask

Mask, M:243

Theau Hou Temple

Kuala Lumpur picture on, K:339

Thebes lancient Egyptl, T:210 with pic-

Thebes (ancient Greek city), T:210

Alexander the Great (His youth), A:244 Cadmus, C:12

Oedipus, 0:412

Pelopidas, P:249

Pindar, P:503

Sphinx (The Greek sphinx), So:216

Thecodont

Dinosaur, D:175

Robbery, R:300

Theiler, Max (South African scientist),

Theiler, Sir Arnold (South African scientist! T:211

Theine

See Caffeine

Their Eves Were Watching God book by Hurstonl

American literature (The Harlem Renaissancel, A:318

Their Very Own and Golden City [play by Weskerl

Wesker, Arnold, W:154

Theism (religion), T:211

God (Ideas about God), G:225

Religion (Belief in a deity), R:197

Them (book by Oates) Oates, Joyce Carol, 0:376

Thematic Apperception Test

Psychology (Systematic assessment),

Thematic map

Map (Types of maps), M:184; (The development of thematic mapping) M:192

Classical music (Classical music forms), Ci:58

Drama (The structure of drama), D:285 Literature, L:311

Music (Melody), M:730

Theme and variations

Classical music (The variation form),

Variation, V:315

Theme park, T:211

Themistocles [Greek political leader], T-212

Theocracy (government), T:213

Theocritus [Greek poet], T:213

Greek literature (The Hellenistic Age), G:358

Theodolite [instrument], T:213

Surveying (Early tools), So:446

Theodora lwife of justinian II, T:213 Justinian I, J:174

Theodore, E. G. [Australian political leader), T:213 with portrait

Theodoric [king of the Ostrogoths], T:213

Theodosius I [Roman emperor], T:213 Byzantine Empire (The people), B:699; (Beginnings) B:701

Olympic Games (The ancient games), 0:436

Rome, Ancient (Decline and fall), R:382

Theogony (book) Mythology (Müller's theory), M:764

Theology, T:214

God (Ideas about God), G:225 Science (The Middle Ages), 5:145 See also Religion

Theology of Culture [book by Tillich] Tillich, Paul, T:248

Theorem

Binomial theorem, B:297

Geometry (Axiomatic organization),

Pythagoras' theorem, P:877

Theory and Practice of Gamesmanship, The book by Potterl

Potter, Stephen, P:722

Theory of Business Enterprise, The

[book by Veblen] Veblen, Thorstein Bunde, V:320

Theory of Games and Economic Behavior, The book by Von Neumann

Von Neumann, John, V:426

Theory of Prime Numbers in Dumps, The (book by Hua Luo-Yeng)

Hua Luo-Yeng, H:336

Theory of the Gene, The (book by Morgani

Morgan, Thomas Hunt, M:607

Theory of the Leisured Class, The [book by Veblen]

American literature (Nonfiction writers), A:316

Veblen, Thorstein Bunde, V:320

Theosophical Society Theosophy, T:214

Theosophy [philosophy], T:214 Besant, Annie Wood, B:261

Theotokopoulos, Domenikos

See Greco, El

Therapist

Medicine (The role of medical workers), M:309

Therapy

Chemotherapy, C:374 Occupational therapy, 0:384

Physiotherapy, P:481 with picture Psychotherapy, P:831

Theravada

Buddhism (Buddhist schools of philosophy), B:617

Religion (Buddhism), R:202

Theremin imusical instrumentl, T:214

Theresa, Saint

See Teresa, Saint Thérése Raquin [book by Zola]

Zola, Émile, Z:501 Thermal control system

Space exploration (Protection against the dangers of space), So:135

Thermal cracking

Thermonuclear fusion

See Fusion Thigh (anatomy) Petroleum (Cracking processes), P:349 Thermonuclear reaction Leg, L:153 with diagram Thermal efficiency Diesel engine (How a diesel engine Nuclear energy (Nuclear fusion), N:322 Thimbleflower works), D:168 Sun (How the sun produces energy), Rudbeckia, R:442 Thin Man, The book by Hammettl Thermal inversion S:416 Air pollution (Chief sources of air pol-Hammett, Dashiell, H:32 Thermopause Thing of Beauty, A (book by Cronin) lution), A:202 Thermosphere, T:217 Air (The troposphere), A:186 Thermoplastic rubber Cronin, A. J., Cl:452 Smog, S:500 Rubber, R:437 Thinker, The Isculpture by Rodini Rodin, Auguste picture on, R:331 Weather (Geographical features), **Thermoplastics** W:115 Adhesive, A:47 Thinking Day Thermal pollution, T:214 Plastics (Types of plastics), P:578 Girl Guides and Girl Scouts, G:169 Environmental pollution (Water pollu-Polyester, P:660 Thinking Reed, The (book by West) tion), E:303 with picture; picture Thermopylae (ancient Greece), T:216 West, Dame Rebecca, W:156 on E:305 Greece, Ancient (The Persian Wars), Thinning Technology (Combating undesirable G:353 Paint, P:25 effects), T:87 Leonidas, 1:169 Thiopental Water pollution (Industrial wastes), Xerxes 1, X:433 See Thiopentone sodium W:88 (Effects) W:89 Thermopylae (ship) Thiopentone sodium (anaesthetic), Thermal power plant Clipper ship, Ci:84 T:219 Water power, W:91 Thermos flask, T:217 with picture Halothane, H:26 Thermal springs Thermoseting plastics [plastics] Thira (formerly Santorin) See Hot springs Polyester, P:660 Volcano (table), V:419 Thermionic current Thermosphere, T:217 Third Class Carriage, The |painting by Air, A:186 with diagram Richardson, Sir Owen W., R:269 Daumier! Thermionic emission lonosphere, 1:328 Daumier, Honoré, D:43 Richardson, Sir Owen W., R:269 Thermostat, T:217 with picture Third-class lever Thermionic valve Cooker (Electric cooker), Ci:332 Lever, L:197 with diagram Invention (Research laboratories), 1:313 Theropod Third-degree burn Thermocouple, T:214 Dinosaur (Kinds of dinosaurs), D:177 Burns and scalds (Classification of Electricity (Other sources of electric-Therry, John Joseph (Australian misburns), B:664 lty), E:168 sionary), T:218 First aid (Burns and scalds), F:144 Thermometer (Electrical thermome-Thesaurus of English Words and Skin (Burns), S:470 ters), T:215 Phrases (book by Roget) Third estate [French history] Thermodynamic temperature Roget, Peter Mark, R:332 Estates-General, E:334 Temperature, T:136 These Happy Golden Years (book by French Revolution (Background), Thermodynamics, T:214 F:451; (The revolution begins) Wilder Clausius, Rudolf Julius Emmanuel, Wilder, Laura Ingalls, W:250 F:452 Cl:69 Theseus |Greek mythology|, T:218 Third International Entropy, E:296 Minotaur, M:502 with picture International, The, 1:288 Heat. H:115 Thespians (literature) Third-party coverage Maxwell, James Clerk, M:273 Drama (Greek drama), D:286 Insurance, I:275 Perpetual motion machine, P:280 with Thespis, T:218 Third person pictures Thespis (Greek actor), T:218 Person, P:298 Physics (Heat), P:473 Thessalonians, Epistles to the New Third Reich Thermoelectricity Testament), T:219 Germany (Nazi Germany), G:136 Thermocouple, T:214 Hitler, Adolf (Dictator of Germany), Thessaloniki **Thermoforming** See Salonika H:230 Plastics, P:582 Thessaly [Greece], T:219 with map Reich, R:189 Thermogram [record] Greece, G:337 Third World, T:220 Thermography, T:215 with picture They Went inovel by Douglas] See also Developing country Thermograph (Instrument) Douglas, Norman, D:273 Thirst, T:220 Thermography, T:215 Thlamine Thirsty Evil, A lwork by Vidall Thermography, T:215 with picture Beriberi, B:243 Vidal, Gore, V:369 Thermohaline circulation loceanogra-Nutrition (Vitamins), N:364 Thirteen-month calendar Calendar (Calendar reform), C:37 Pork, P:691 Ocean, 0:395 with diagram Vitamin (Vitamin B complex), V:411 Thirties, The work by Wilson Thermometer, T:215 with pictures Thibault, Jacques Anatole François Wilson, Edmund, W:261 Bolometer, B:432 Thirty-Five Poems [work by Read] See France, Anatole Liquid air (Properties), A:280 Thickener Read, Sir Herbert, R:149 Medicine picture on, M:307 Thirty-Nine Articles [religion], T:220 Food additive, F:304 Mercury (Uses), M:360 Thickness gauge Ridley, Nicholas, R:273 Pyrometry, P:876 Thirty Tyrants [Greek history], T:220 Gauge, G:63 Temperature, T:136 Thief in the Night, A lbook by Hor-Thirty Years' War, T:221 Thermocouple, T:214 Czech Republic (Habsburg rule), Thermostat, T:217 Hornung, E. W., H:283 Cl:520 Weather (Development of weather Czechoslovakia (Habsburg rule), Thiele, Colin [Australian writer], T:219 forecasting), W:122 Thiers, Louis Adolphe (French political Cl:523

feader], T:219

Germany, G:132

Gustavus Adolphus, G:431 Prague (History), P:737 Richelleu, Cardinal (His influence in Europe), R:270 Illy, Count of, T:248 Wallenstein, Albrecht Wenzel Euseblus von, W:25 This is My Story Ibook by Roosevelt Roosevelt, Eleanor, R:386 This 'n That (book by Davis) Davis, Bette, D:46 This Place is Crowded, The book by Barbara Lavalleel

Literature for children, L:327

Thisbe See Pyramus and Thisbe

Thistle (plant), T:222 with picture See also list of Related Articles Thomas, Dylan [Welsh poet], T:222

with portrait Thomas, Edward (British poet), T:222 Thomas, George [British politician],

T:222 Thomas, Isalah (American printer),

T:222 Thomas, Saint, T:223

Thomas à Becket

See Becket, Saint Thomas à Thomas à Kempis (German author),

Thomas Aguinas, Saint See Aguinas, Saint Thomas Thomas Cook See Cook, Thomas

Thomas Jefferson (sculpture by Pow-

Powers, Hiram, P:732 Thomas Muskerry [play by Colum] Colum, Padraic, Cl:203

Thompson, Andrew [Australian settler], T:223

Thompson, D. C. [publishing industry] Tayside Region, T:74

Thompson, Daley (British athletel, T:223

Thompson, David (Canadian geographer), T:223 Thompson, Francis (English poet),

T:223 Thompson, William (American grape

producer Raisin (Varieties of raisins), R:121

Thompson grapefruit Grapefruit, G:298

Thompson Seedless [grape] Raisin (Varieties of raisins), R:121

Thomsen, Christian Jürgensen Dan-Ish archaeologistl, T:223 Thomson, Charles Wyville

Exploration (Deep-sea exploration), E:428 Thomson, George [British politician],

T:224 Thomson, James (Scottish poet), T:224 Thomson, Lord [British businessman],

T:223 Thomson, Roy Herbert See Thomson, Lord Thomson, Sir Joseph John British

physicist), T:224 Electronics (The development of electronics), E:192

picture on. E:192

Thomson, Tom (Canadian painter), T:224 with picture

Thomson, Virgil [American composer], T:224

Thomson, William

See Kelvin, Lord

Thomson's gazelle

Gazelle, G:66 with picture

Thor [Norse mythology], T:225

Thursday, T:233 Vikings (Religion), V:389

Thoracle duct Human body (The lymphatic system), H:357

Intestine (The small intestine), I:298 Lymphatic system (Lymphatic vessels), L:425 with diagram

Thoracle surgery Medicine (The specialities), M:311

Thorax

Animal (Wings), A:396 Fly, F:278 with diagram Grasshopper (The body), G:305 Insect (The bodies of insects), 1:249 Mosquito, M:634 with picture Moth, M:640 See also Chest Thoreau, Henry David (American

writerl, T:225 with portrait American literature (Nonfiction prose), A:314

Thorium (element), T:226 Radioactivity (Alpha radiation), R:88 Uranium (Uranium Isotopes), U:273

Thorn, T:226 Thorn apple (plant) Datura, D:42

Thornbury (England) Avon (Places to visit), A:892

Thorndike, Dame Sybil (British actress], T:226 with portrait

Thorndike, Edward Lee American psychologist], T:226

Thorndike-Barnhart dictionary Thorndike, Edward Lee, T:226 Thorndike-Century dictionary

Thorndike, Edward Lee, T:226 Thornhill, Sir James (British painter),

T:226 Thoroughbred

Horse (Saddle horses), H:286

Thoroughwort Boneset, B:447

Thorpe, Jeremy British political leaderl, T:226

Thorpe, Jim [American athlete], T:226 with picture

Olympic Games (The Modern Games), 0:435

Thorpe Park [England] Surrey (Places to visit), So:444 Thorvaldsen, Bertel (Danish sculptor),

Sculpture (European sculpture), S:212 with picture

Thoth (Egyptian mythology), T:227 Thothmes III

See Thutmose III Thought-rhythm

Whitman, Walt (His work), W:239

Thought transference Telepathy, T:104

Thoughts [poetry by Harpur] Harpur, Charles, H:65

Thoughts on the Education of Daughters [book by Wollstonecraft]

Wollstonecraft, Mary, W:290

Thoughts on the Interpretation of Nature [work by Diderot]

Diderot, Denis, D:167

Thoughts Without Words [work by Day

Day, Clarence, D:51

Thousand and One Nights See Arabian nights

Thousand Islands (Canadal, T:227 with

picture Thousand Islands International

Bridge Thousand Islands, T:228

Thrace |Balkan Peninsulal, T:228 Greece, G:337

Thrasher [bird], T:228 with picture

Thread [fibre], T:228 Sewing (Sewing the Item), \$:287 Spinning, So:230

Thread snake Snake, S:516 Threadworm

Pinworm, P:509

Three Cities, The book by Zolal Zola, Émile, Z:501

Three Comrades (book by Remarque) Remarque, Erich Maria, R:209

Three Cornered Hat, The book by Alarcóni

Alarcón, Pedro Antonio de, A:225 Three-dimensional picture

Holography, H:249 with picture Stereoscope, So:318

Three-dimensional vision Eye (Depth perception), E:438

Three estates [European history] French Revolution (Background), F:451 Canterbury Tales, C:132

Three Guineas [book by Woolf] Woolf, Virginia, W:313

Three Kingdoms Korea (Early years), K:327

Three Kings Day

Puerto Rico (Recreation), P:847 "Three Little Pigs, The" story by Jacobsi

lacobs, Joseph, J:8 Three Lives (work by Stein)

Stein, Gertrude, So:312

Three Men in a Boat (book by Jerome) lerome, Jerome K., J:85 with portrait Three Mile Island

Nuclear energy (Safety concerns), N:331

Pennsylvania (History), P:264 Three-mile limit Right of search, R:276

chines), 1:213

Throttle

Territorial waters, T:158 Aeroplane (Flying an aeroplane), A:97 chologisti, T:234 Thus Spake Zarathrustra [book by Three Musketeers, The book by Carburettor, C:190 Nietzschel Dumasl Through the Looking-Glass [book by Buckingham, Duke of, B:608 Carroll Nietzsche, Friedrich, N:202 Philosophy (Philosophy in the 1800's). Carroll, Lewis, C:210 Dumas, Alexandre, père, D:344 Tenniel, Sir John, T:141 Three-race theory Races, Human, R:43 Thrush [bird], T:231 with pictures Thutmose III [king of Egypt], T:234 Three Rivers [England], T:229 See also list of Related Articles Thylacine Three Rondavels, The Thrush [disorder], T:231 Tasmanian tiger, T:65 with picture Eastern Transvaal picture on, E:49 Horse (Medical care), H:299 Thyme [herb], T:234 Thrust Three Sisters, The [play by Chekhov] Thymine [biochemistry] Chekhov, Anton, C:363 Aeroplane (How an aeroplane flies), Cell (DNA-the wondrous ladder). Drama (Russian drama and Chekhov). A:95 with diagram; (Drag and C:300 thrust) A:96 Heredity (The structure of DNA), H:170 D:298 Airship, A:218 Nucleic acid (DNA), N:341 Russian literature (Late realism), R:499; jet propulsion, J:102 picture on R:495 Thymosin Three Sisters [Australia], T:229 Rocket (How rockets work), R:317 Thyrnus, T:234 New South Wales picture on, N:122 Space exploration (Space exploration Thymus (anatomy), T:234 with diagram 360's isurfing manoeuvrel terms), So:130; (Overcoming grav-Thyratron Surfing, So:435 ity) So:133 Vacuum tube (Gas-filled tubes), V:299 Three Soldiers [novel by Dos Passos] Thruster [rocketry] Thyroid gland, T:234 Dos Passos, John, D:271 Satellite, Artificial (Launching the satel-Gland (table), G:183 Three Wise Men lite), S:98 Goitre, G:229 See Magi Thucydides [Greek historian], T:232 Hormone (Human hormones), H:277 Greece, Ancient (Learning about an-Human body (The endocrine system), Three Worlds (book by Van Doren) Van Doren, Carl, V:310 cient Greece), G:355 H-358 Threepenny Opera, The Imusic by History (The development of historical See also Gland Weill) writing). H:225 Thyroid-stimulating hormone (TSH) Oratory (Classical orators), 0:484 Brecht, Bertolt, B:551 Goitre, G:229 Drama picture on, D:299 Thug [history of India], T:232 Hormone (Endocrine control hor-Well, Kurt, W:141 Thulium [element], T:232 mones), H:279 Threnody for the Victims of Hiro-Thumb Thyroid gland, T:235 shima (work by Penderecki) Hand, H:39 with diagram Thyroxine Penderecki, Krzysztof, P:255 Dwarf (Hormonal dwarfism), D:360 Monkey (Hands and feet), M:564 Threshing (agriculture) Thumb, Tom Goitre, G:229 Combine, harvester, Cl:214 See Stratton, Charles Sherwood Growth (Factors affecting human Flail, F:218 Thumboo, Edwin [Singapore writer], growth), G:388 Rice (Harvesting), R:265 Harington, Sir Charles Robert, H:61 T:232 World picture on, W:324 Hormone (Metabolic hormones), Thumper truck Threshing machine, T:230 with pic-Gas (Exploring for gas), G:51 H:276 ture lodine (Uses of iodine), I:324 Petroleum (The seismograph), P:342 Wheat (The mechanization of wheat with picture Thyroid gland, T:234 with diagram farming), W:224 with picture Thunder (mythology) Trace elements, T:322 Threshold of audibility Jupiter, J:172 Thyrsus [botany] Sound (Measuring sound), So:52 Thor, T:225 Inflorescence, I:232 Threshold of pain Zeus, Z:492 Thysanoptera [entomology] Sound (Measuring sound), So:52 Thunder [weather], T:232 with diagrams Insect (table), 1:262 Thrift [plant], T:230 with picture Cloud (Storms), Ci:113 Thrips, T:230 Thriller (album) Lightning, L:271 Thysanura Insect picture on, 1:242 (table) 1:261 Jackson, Michael, 1:7 Weather (Storms), W:116 Thrips (Insects), T:230 with picture Thunder plant TI (symbol) Throat [anatomy], T:230 See Houseleek Thallium, T:186 Eustachian tube, E:401 Thunderbolt, Captain [Australian bu-Tiahuanaco Indians Pharyngitis, P:359 shranger), T:233 with portrait Bolivia (History), B:429 Thrombophlebitis Tlan Shan [mountains, Asial, T:235 Thuraisingham, Dato Sir Clough Kyrgyzstan (Land and climate), K:349 Phlebitis, P:427 Tamil politicianl, T:233 Uzbekistan (Land and climate), U:294 Thrombosis Thurber Carnival, The work by Blood (Controlling bleeding), B:397 **Tiananmen Square** [Beijing] Thurber Coronary thrombosis, Ci:362 Beijing (The city), B:204; (History) Thurber, James, T:233 Stroke (Causes), So:358 Thurber, James [American humorist], B:205 Thrombus China (China after Mao), C:464 Blood (Controlling bleeding), B:397 Thurrock [England], T:233 Tlanjin [Chinal, T:235 Heart (Causes), H:104 Essex (Local government), E332 Tiber River [italy], T:235 Throne Thursday, T:233 Tiberias, Lake Cathedral (The Bishop's throne), C:262 Thor, T:225 See Sea of Galilee Tiberius lemperor of Romel, T:236 Throstle Vikings (Religion), V:391 Tibet, T:236 with pictures and map Industrial Revolution (Spinning ma-Week, W:131 See also list of Related Articles

Thursday Island [Australia], T:234

Thurstone, Louis Leon [American psy-

Asia (Life of the people), A:643

Metric system (Time measurements),

M:386

Soil (Effects of time), So:21

Islamic art (Pottery), I:421 Tibetan spaniel, T:238 with picture Clothing, Ci:88 Tilefish, T:247 with picture Tibetan terrier, T:238 with picture South America (Coastline and islands), Till Eulenspiegel Dog picture on, D:235 So:93 with picture See Eulenspiegel, Till Tiffany Favrile glass Tibia [anatomy] Till Plains Glass, G:199 Knee, K:297 with diagram Indiana (Land regions), 1:178 Leg (The leg), L:153 with diagram Tiffany, Charles Lewis (American je-Tillage Thuron (book by Tennant) wellerl, T:243 Conservation (Soil conservation), Tennant, Kylie, T:140 Tiffany, Louis Comfort | American de-CI:293 Tic (disorder), T:239 signer, T:243 Tilley, Vesta [British entertainer], T:248 Art nouveau, A:604 Neuralgia, N:102 with picture Glass (Tiffany Favrile glass), G:199 Tourette syndrome, T:311 Tillich, Paul [German-born theologian], Stained glass (Decline and revival), Tichborne Dole T:248 So:265 Hampshire (Customs), H:33 Tilly, Count of [Belgian general], T:248 Tick (animal), T:239 with pictures Tiffis Thirty Years' War (The Bohemian pe-See Tbilisi Dog (Medical care), D:238 riod), T:221 Tiger, T:243 with pictures First aid (Injected poisons), F:143 Animal (Protected areas), A:413; pic-Tilly of Bloomsbury [book by Hay] Lyme disease, L:424 Hay, Ian, H:89 ture on A:389 Parasite (Parasites that feed on people Endangered species (table), E:243 with Tiltmeter and animals), P:171 Volcano (Predicting volcanic eruppicture Relapsing fever, R:191 tions), V:421 India (Mammals), I:69; with picture on Rickettsia, R:271 Timber, T:248 Mammai picture on, M:136 Tick fever, T:239 Colonial life in America (Trade and in-Tiger, Tasmanian Ticket of leave dustry), Cl:184 Convicts in Australia (Probation). See Tasmanian tiger Forest, F:344 with pictures Tiger at the Gates |play by Giraudoux| Cl:322 Forest products, F:354 Giraudoux, Jean, G:166 Transportation, T:362 Forestry (Managing timber resources), Tiger cat [marsupial], T:245 with picture Western Australia (Convicts), W:182 Tiger Hill Ticking [fabric], T:240 Timber dam West Bengal (Places to visit), W:161 Tickseed Dam (Kinds of dams), D:12 Tiger lily Iplantl, T:246 Coreopsis, Cl:351 Tiger moth, M:642 with picture Timber line Flower (Flowers of grasslands), F:255 Animal (Animals of the mountains), Cocoon, Cl:144 Ticonderoga, Battle of Tiger shark, T:246 Fort Ticonderoga, F:365 Mountain (Plants and animals), M:666 Tiger snake, T:246 with picture Tidal Basin Rocky Mountains (Plant and animal Tiglath-pileser I (king of Assyria), T:246 Washington, D.C. (The National Mall), life). R:327 Tiglath-pileser II [king of Assyrial, W:56 United States (The Rocky Mountains), Tidal current T:246 U:210 Tiglath-pileser III (king of Assyrla), Tide (High tides and low tides), T:242 Timber rattlesnake T:246 Tidal wave, T:240 Rattlesnake, R:145 Tiglon See also Krakatoa; Seiche Timber wolf Lion (Cubs), L:299 Tidbinbilla Nature Reserve (Australia) Wolf, W:285 with picture Tiger (The body of a tiger), T:244 Canberra (Places to visit), C:116 Timberlake, John B. [American naval Tigon Tide, T:240 with diagrams Lion (Cubs), L:299 Air (The thermosphere), A:186 O'Neale, Peggy, 0:451 Tiger (The body of a tiger), T:244 Bore,, B:468 Timberyard Tigran II lking of Armenial Earth (The earth's gravity), E:21 Timber (From sawmill to timberyard), Armenia (History), A:580 Energy supply (Tidal energy), E:249 T:250 Tigris-Euphrates Valley Indian Ocean, 1:169 Timbre Asia, A:657 Moon (The moon and tides), M:592 Harmonics, H:62 Iraq (The northern plain), 1:344 Ocean, 0:395 Music (Tone colour), M:731 Prehistoric people (The end of prehis-Pacific Ocean (Currents and tides), Sound (Sound quality), So:49 toric times), P:760 P:15 Timbuktu [Mali], T:253 World, History of the, W:332 Sea level, S:221 Africa (Kingdoms in western Africa), Tigris River, T:246 Seashore, S:228 A:150 Tijuana [Mexico], T:246 Tidal wave, T:240 Tikhonov, Nikolai Aleksandrovich Mali Empire, M:117 Tie dyeing, T:243 Mali (History), M:116 with picture [Russian political leader], T:247 Gujarat picture on, G:421 Sunni Ali, So:426 Tiki [Maori neck pendant], T:247 Tlen-chin World, History of the (African civiliza-Tilak, Bal Gangadhar (Indian politi-See Tlanfin tions), W:347 with picture Tien Shan cianl. T:247 Time, T:253 with maps Tilbury (England) See Tian Shan See also list of Related Articles Essex (Transport and communication), Tlentsin Hour, H:321 E:332 with picture; (History) E:333 See Tianjin Measurement (Measuring time), See also Thurrock Tiepolo, Giovanni Battista Iltalian Tilden, Bill (American tennis player) M;295 painter), T:243 Metaphysics (Space and time), M:379 Tierra del Fuego (islands, South Amer-Tennispicture on, T:148

Tile, T:247

1:285

Interior decoration (Floor coverings),

ical, T:243 with map

Argentina (Patagonia), A:559

Chile (The Archipelago), C:421

Tinbergen, Jan (Dutch economist),

Heredity (The era of genetic engineer-Wittgenstein, Ludwig, W:283 T:259 Tinbergen, Nikolaas [Dutch-born zool-Time & Chance (book by Callaghan) ing), H:174 Tissue transplant, T:263 Callaghan, Luis, C:41 ogist), T:260 Bone bank, B:447 Time and motion study Nobel Prizes (Physiology or medicine), Gilbreth, G:158 N:231 Cyclosporine, Ci:511 Time and the Conways book by Tincture Death (Defining death), D:58 Priestley! Digitalis, D:172 Eye bank, E:445 Heart (Heart failure), H:110 with pic-Priestley, John Boynton, P:776 **Tincture of iodine** Time lock, T:257 lodine (Uses of iodine), 1:324 Time Machine, The [book by Wells] Tindaro, Marchese del Immune system (The cell-mediated im-Wells, H. G., W:147 Rampolla, Marlano Cardinal, R:132 mune response), 1:41 Time of the Hero, The book by Vargas Ting Ling Liver, L:333 Ding Ling, D:173 Lymphatic system (Rejection of trans-Vargas Liosa, Mario, V:314 Ting, Samuel Chao Chung (American planted tissue), L:426 scientist], T:260 Time-release medicine Medicine (The medical revolution), See Microencapsulation Tinguely, Jean [French sculptor] Sculpture (Movement), S:191 Time signature Surgery (Technique), So:437 Music (Indicating time values), M:732 Tinnitus (disorder), T:260 Tisza (river, Hungary) with pictures Deafness (Environmental factors), D:56 Hungary (Land and climate), H:377 Time to Remember, A [novel by Doug-Ear (Acoustic neuroma), E:12 Tit [bird], T:264 with picture Tint Titan [rocket] Douglas, Lloyd Cassel, D:272 Colour (Mixing colorants), Ci:196 Space exploration (Launch vehicles), Time zone Paint (Shading), P:25 So:132 with picture Time, T:257 Tintagel (England) Titan-Centaur Timer Cornwall (Places to visit), Ci:360 Space exploration (Launch vehicles), Radar, R:61 Tintoretto [Venetian painter], T:260 So:132 "Times They Are A-Changin, The" Painting (Painting compositions), P:35 Titania (gem) [sona] with picture Titanium (Uses), T:265 Dylan, Bob, D:364 Tip sheared rugs and carpets Titanic [ship], T:264 with picture Timgad (Roman Empire) Rugs and carpets, R:450 Disaster (Accidents), D:188 City picture on, Ci:25 Tipi Iceberg (Ice patrols), I:18 Timon of Athens [play by Shakespeare] See Tepee Sarnoff, David, S:93 Shakespeare, William, S:319 Tipperary [ireland], T:260 with pictures Shipwreck (table), S:387 Timor [island, Southeast Asia], T:257 and map Titaniferous ore, T:265 Indonesia (The Lesser Sunda Islands), Arms picture on, A:588 Titanium (element), T:265 I:187 with map; (Climate) I:190 Tippett, Sir Michael (British composer), Titanium dioxide Portugal (End of the empire), P:707 T:262 Colour (Mixing colorants), Cl:196 **Timor Sea** Tipping bucket rain gauge Titanium (Uses), T:265 Pacific Ocean (Coastline and Islands). Rain gauge, R:119 Titanium tetrachioride Tippit, J. D. [American police officer] Titanium (Uses), T:265 Timothy [Biblical figure], T:258 Oswald, Lee Harvey, 0:516 Titanomachy (Greek mythology) Timothy [plant], T:258 Tipu Sultan lindian ruleri, T:262 Rhea, R:250 Grass (Common grasses), G:303 Karnataka (History), K:198 Titans (Greek mythology), T:265 Timpani Tiranë (Albania), T:263 Rhea, R:250 Drum [musical instrument], D:324 with Tire Tithe, T:265 Cathedral (Historical Importance of ca-See Tyre Music (Percussion instruments), M:729 Tiros (satellite) thedrais), C:263 Timur the Lame Satellite, Artificial (Important satellites), Philanthropy, P:364 See Tamerlane S:96; (History) S:98 Taxation (History), T:70 Tin (element), T:258 with pictures Tirso de Molina (Spanish playwright), Tithe barn, T:266 Bolivia (Mining), B:429; (Trade) T:429 T:263 Taxation (History), T:70 Cassiterite, C:230 Tiruchirappalli [India] Tithing Pewter, P:355 with picture Tamil Nadu (Places to visit), T:22 Smith, Joseph, S:499 Thalland (Mining), T:183 with picture Tishah be-av [Jewish day of mourning], Titi (animal), T:266 with picture Tin can, T:259 Titian [Venetian painter], T:266 with pic-T-263 Tin, T:258 Tishri (month) Painting (Venetian painting), P:60 with Tin Drum, The [book by Grass] Calendar (The Hebrew Calendar), C:34 German literature (Postwar German lit-Tisiphone (Greek mythology) picture erature), G:110 Furies, F:492 Titicaca, Lake Grass, Günter, G:304 Tisquantum See Lake Titicaca Tin mine See Squanto Title [law], T:267 Tin picture on, T:259 Tissue, T:263 Conveyancing, Ci:318 Tin Pan Alley See also list of Related Articles Titled Cross, The [book by Porter] Popular music (The 1900's), P:683 Food (Building and repairing tissues), Porter, Hal, P:696 Tin plate Titmarsh, Michael Angelo Tin. T:258 See Thackeray, William Makepeace Human body (Cells and tissues), H:350 Tinamou (bird), T:259 Tito, Josip Broz (Yugoslav political Plant (Parts of plants), P:553 Tinaroo Falis Dam (Australia), T:259 Tree (The parts of a tree), T:377

Tissue plasminogen activator

leaderl, T:267

Macedonia (History), M:9

Serbia (People), S:266; (History) S:268 Slovenia (History), S:494 Yugoslavia (Government), Y:470; (World War II) Y:474; (Communist rule) Y:474 Titograd See Podgorica Titov, Gherman [Russian astronaut]

Space exploration (Vostok and Mercury. The first human beings in space), So:145 Titus Andronicus [play by Shakespeare]

Shakespeare, William, S:310 with picture Titus (Biblical figure), T:267 Titus (Roman emperor), T:267

Titus, Epistle to Titus [Biblical figure], T:267 **Tivoli Gardens** Denmark picture on, D:112

Tizard, Sir Henry Thomas | British scientist), T:267

See Transcendental Meditation Tm [symbol] Thulium, T:232

TNT (explosive), T:267 Nitric acid, N:221 PETN. P:327 Toluene, T:290

To Hell with Culture [work by Read] Read, Sir Herbert, R:149 To Keep the Ball Rolling book by Powelll

Powell, Anthony, P:731 To the Devil a Daughter book by Wheatley Wheatley, Dennis, W:226

To the Lighthouse book by Woolfl Novel (New directions in the novel), Woolf, Virginia, W:313 Toad, T:268 with pictures

Amphibian (Kinds of amphibians), Frog (Kinds of frogs), F:467

Midwife toad, M:459 with picture Surinam toad, So:440 with picture Tadpole, T:5 Toadfish, T:269 with picture

Toadflax Iplantl, T:269 with picture Toadstool

See Mushroom

Tobacco, T:269 with pictures Cigar, Ci:3 Cigarette, Cl:3

Drug abuse (Abuse of legal drugs), D:320

Jamestown, J:24

Victoria picture on, V:363 Virginia picture on, V:404 See also Drug abuse; Smoking

Tobacco budworm Cotton (Care during growth), Ci:385 Tobacco Road [book by Caldwell] Caldwell, Erskine, C:33

Tobaccoweed See Witch hazel Tobago

See Trinidad and Tobago Tobermory [Scotland], T:272 Tobey, Mark [American artist], T:272

Tobogganing [sport], T:272 with picture Toc H [organization], T:273

Toccata

Classical music (Solo music), Ci:56 Toco toucan Toucan picture on, T:309

Tocopherol Nutrition (Vitamins), N:364

Vitamin, V:411 Tocqueville, Alexis de [French historian], T:273

Todd, Mark New Zealand horse rider), T:273

Todd, Sir Charles (Australian government official), T:273

Todd (river), T:273 Todd, Sir Garfield New Zealand-born missionary, T:273

Todd River [Australia], T:273 Toddler

Child (The toddler stage), C:404 Toddy palm, T:273 Toe

See Foot Tofu [food], T:273 China (Food), C:443 Toga [clothing], T:274 with picture

Clothing (The Romans), Ck99 with pic-Rome, Ancient (Food, clothing, and

shelter), R:373 Tunic, T:440 Toggenburg goat

Goat (Domestic goats), G:221; picture on G:223 Togo [Africa], T:274 with pictures and

Flag picture on, F:202 Lomé, L:364

Togo Mountains

Togo (Land), T:275 Toheroa [food] New Zealand (Food and drink), N:155 Toilet

Plumbing (How toilets work), P:603 with diagrams Tojo, Hideki [Japanese general], T:276

with portrait **Tokamak**

Nuclear energy (Experimental fusion devices), N:331 with picture

Tokelau (islands, Pacific), T:276 **Tokonoma**

Japan (City life), J:40 Tokugawa period apan, J:56

Japanese literature, J:64 Shogun, 5:391 Tokyo IJapani, T:277 with pictures and

See also list of Related Articles

Japan pictures on, J:39, J:46 **Tokyo Rose**

Tokyo Stock Exchange

Tokyo (Finance), T:285 with picture

Tokyo Tower Tokyo, T:284

Tolais [people], T:288 Toledo (Spain), T:288 Greco, El picture on, G:331 Toledo [U.S.A.], T:288 Tolentino, Guillermo [Filipino sculptorl, T:288

Toleration Act United Kingdom, History of the (The Glorious Revolution), U:140

Tolkien, J. R. R. (English author), T:288 Fairy (Fairies in literature), F:10 Tolman, Edward Chace American psy-

chologistl, T:288 Tolpuddie martyrs, T:286 Dorset (History), D:270 Tolstoy, Alexel [Russian author], T:288 Russian literature (The period of rebirth), R:500

Tolstoy, Leo [Russian writer], T:289 with portrait Doukhobors, D:274 Novel (Russia), N:313 Russian literature (The 1860's and

1870's), R:499 Toltec Indians (American Indians) Architecture (Pre-Columbian architecture), A:520 Latin American (The first inhabitants),

Maya (The Postclassic Period), M:280 Mexico (The Toltec and the Aztec), Pyramids (American pyramids), P:873

Toluene, T:290 Petrochemicals, P:328 Saccharin, S:6 TNT, T:267 Tolypocladium inflatum

Cyclosporin, Ci:511 Tom Brown at Oxford book by **Hughes**] Hughes, Thomas, H:342 Tom Brown's School Days book by

Hughes! Hughes, Thomas, H:342 Rugby School, R:448

Tom Petrie's Reminiscences of Early **Queensland** (book by Petrie) Petrie, Thomas, P:328 Tom Thumb

See Stratton, Charles Sherwood Tom Thumb [locomotive], T:290 Tom-tom imusical instrumenti, T:290

with picture Tomahawk, T:290 with picture Indian, American (Weapons), 1:146

Tomarctus lextinct animall Dog (History), D:239 Tomato [plant], T:291 with pictures Tomb. T:292

Sculpture (Later medieval sculpture), S:210 with picture

Tomb of Couperin, The Imusic by Ravell Ravel, Maurice, R:146

World War II (Propaganda), W:403 Tomb of Hugh le Despenser Sculpture (Later medieval sculpture), S:210 with picture

Tomb of Lorenzo de' Medici

Sculpture (Michelangelo), \$:212 with picture

Tomb of Pope Alexander VII

Sculpture (European sculpture), S:212 with picture

Tombaugh, Clyde William [American astronomer)

Astronomy (The discovery of new planets), A:699

Pluto. P:604

Tombouctou

See Timbuktu

Tombstone [U.S.A.], T:292

Tomintoul (Scotland)

Grampian Region (Places to visit), C:289

Tomkins, Thomas (English composer), T:293

Tomlin, Bradley Walker [American painteri, T:293 with picture

Tommy imusic by The Whol Who, The, W:241

Tomography

Positron emission tomography, P:709 Tomorrow Is Now book by Rooseveltl Roosevelt, Eleanor, R:386

Tompson, Charles [Australian writer] Australia, Literature of (The development of poetry), A:830

Ton lunit of measurel, T:293

Tonbridge and Mailing (England),

Kent (Local government), K:219

Tone [music], T:293

Chinese language (Spoken Chinese).

Classical music (The baroque period), Cl:60

Harmonics, H:62

High-fidelity system (The amplifier),

Music (Tone colour), M:731

Tone [photography]

Photography, P:444

Tone arm

High-fidelity system (The record player), H:196 Record player, R:164

Tone colour

Music. M:731

Tone, Theobald Wolfe (Irish soldier), T:293 with portrait

Tonga, T:293

Flag picture on, F:206

Tasman, Abel Janszoon (The first vovage), T:49

Tongatapu

Tonga (Land), T:294

Tonge, Israel (English public figure) Popish Plot, P:681

Tongue (anatomy), T:295

gram

Chameleon (The life of a chameleon), C:340 with picture

Frog (The body of a frog), F:464 Hummingbird (Habits), H:369 with dia-

Mouth, M:677 with diagram Taste, T:65 with diagrams

Tonkin

Vietnam (French rule), V:380

Tonle Sap River

Cambodia (Land), C:46

Tono-Bungay [book by Wells]

Wells, H. G., W:147

Tonsil [anatomy], T:296 with diagram Diphtheria (Cause, symptoms, and complications), D:184

Tonsillectomy

Surgery (Some common surgical operations). So:438

Tonsillitis, T:296

Tonsillitis Idiseasel, T:296

Tonti, Henri de [French explorer], T:296

See also iberville. Sieur d'

Tontons Macoutes

Haiti (History), H:18

Tool, T:296

See also list of Related Articles Papua New Guinea, P:144

Prehistoric people (The first human beings), P:751; (Neanderthals) P:756; (The improvement of tools)

P:758; pictures on P:753 Woodworking (Tool care and safety),

W:307 Toolmaking, T:297

Prehistoric people (The first human beings), P:751; (Neanderthals) P:756; (Cultural development of modern human beings) P:758

Toomer, Jean [American writer], T:297 American literature (The Harlem Renaissance), A:318

"Toot, Toot, Tootsie!" [song] Jolson, Al, J:138

Tooth

See Teeth

Tooth decay

Fluoridation, F:274

Teeth (Dental decay), T:93

Tooth shell

Indian, American (Money), I:149 Mollusc, M:536 Shell, S:346; picture on S:345

Toothache tree

Prickly ash, P:775

Toothed disc blade

Woodworking (Cutting), W:307

Toothed whale

Whale (Kinds of toothed whales), W:207

Toothpaste and toothpowder, T:297 Teeth (Cleaning the teeth), T:93

Tin (Uses), T:258

Tootsie |film|

Hoffman, Dustin, H:240

Toowoomba [Australia], T:297 with picture

Top [toy], T:298 with picture

Top lighting

Photography, P:446 with picture

Topa Inca Yupanqui (Inca ruler)

Inca (History), 1:51 Topaz (gem), T:299

Gem picture on, G:73

Topelius, Zachris [Finnish writer]. T:299

Topiary work, T:299

Topic outline

Outline, 0:523

Topical arrangement

Encyclopedia (Arrangement of content), E:236

Topical geography

Geography (Divisions of geography), G:88

Topographic map

Map (Thematic maps), M:184

Topographical survey

Surveying (Types of surveys), So:443

Topography, T:299

Geomorphology, G:99

Topology, T:299

Geometry (Rise of non-Euclidean geometry), G:98

Mathematics (in the 1800's), M:260

Topsoil, T:299

Soil (Characteristics of soils), So:21

Torah (religious book), T:299

lews (The Helienistic period), J:113 Judaism, J:153

Old Testament (Contents), 0:427 Torbay [England], T:299

Torch, T:299 with picture

Torfaen (Wales), T:300 with picture

Tori Busshi [Korean sculptor] Sculpture (Japan), S:201

Torino

See Turin

Tornado, T:300 with pictures

Cyclone, Ci:510

Hurricane (Destructive power), H:388

Weather, W:117 with picture

Tornado over Kansas [painting by Curry

Curry, John Steuart, Ci:504

Torne River [Sweden], T:301

Tornio River

See Torne River

Toronto [Canada], T:302 with picture

Torpedo, T:303 with picture

Ammunition (Self-propelled ammunition), A:336

Mine warfare (History), M:482 Submarine (Attack submarines),

So:368

Torpedo mechanism

Edison, Thomas Alva (Inventorindustrialist of West Orange), Em

Torpedo ray [fish], T:304

Torquato Tasso (work by Goethe) Goethe, Johann Wolfgang von, G:228

Torque, T:304

Gear (How gears work), G:67 Horsepower (Brake horsepower),

Lever (Law of equilibrium), **L:197** See also Force

Torque converter

Transmission, T:344

Torquemada, Tomás de Spanish priestl, T:304

Torre, Eugene [Filipino chess player], T:304

Tournament Communism, Cl:238 Torrens, Lake Knights and knighthood, K:303 Communism (Communism in practice), See Lake Torrens Tourneur, Cyril (English dramatist), Torrens, Sir Robert (Australian politi-Ci:239 Government, G:270 clanl, T:304 Torrens (river, Australia), T:304 Totalizator Horse racing (Betting), H:308 Torrens system [law], T:304 Totem, T:308 with picture Conveyancing, Cl:319 Totem pole Torres, Luis Vaez de [Spanish naviga-Totem, T:308 with picture torl, T:305 Sculpture (The European impact), M:743 Torres Strait Islands (Australia), T:305 Inricelli, Evangelista (Italian physi-Tottel's Miscellany [poetry by Surrey cistl. T:305 and Wyattl Air (The study of air), A:188 Surrey, Earl of, So:445 Barometer, B:115 with picture Hydraulics (Torricelli's law), H:400 Wvatt, Sir Thomas, W:425 Invention (The Age of Reason), 1:316 Totuava Ifishi Drum [fish], D:324 Torridge [England], T:305 Toucan [bird], T:308 with pictures Tersion balance, T:306 T:315 Touch, T:309 Tersion bar suspension, T:306 with **TOW missile** Animal, A:400 with picture picture Insect, I:253 Tersion pendulum C2409 Mammal, M:130 Pendulum (Other pendulums), P:256 Touch judge Torso of a god Rugby football (The officials, Rugby Sculpture (Indus Valley), S:196 with League), R:446 picture Rugby football (The officials, Rugby Tort [law], T:306 Towboat Union), R:443 See also list of Related Articles Touch of Evil [film] Tortilla (food) Weiles, Orson, W:145 Costa Rica (Food), Ci:375 Touch of Innocence, A (book by Dun-Latin America (Food and drink), L:82 hami with picture Dunham, Katherine, D:350 Maya (Food, clothing and shelter), Toucouleur (people) M:278 picture Mauritania (People), M:268 Mexico (Food and drink), M:405 Tough Guys Don't Dance book by Tortilla Flat (book by Steinbeck) Mailer Steinbeck, John, So:312 Mailer, Norman, M:69 Tortoise [reptile], T:306 with picture Toulon (France), T:309 Animal (Armour), A:404 0012 Toulon, Slege of Turtle, T:475 Napoleon I (Early military career), N:19 Tortoisesheli Toulouse (France), T:310 Turtle (Turtles and human beings), Toulouse goose T:475 Goose, G:254 Tortuga [island] Toulouse-Lautrec, Henri de [French Halti (History), H:18 E:275 painterl, T:310 with picture Torture, T:307 Art nouveau, A:604 Tory Island (ireland), T:307 Painting (Postimpressionism), P:78 Tory Party, T:307 Poster picture on, P:716 Conservatism (History), Ci:305 Toupee Conservative Party, Ch:305 See Wig United Kingdom, Government of the Touraco (bird), T:310 with picture (The Conservative Party), U:113 Touré, Sékou (president of Guineal, United Kingdom, History of the (Developments in government), U:147

See also list of Related Articles Tower Hamlets [London], T:316 with Tower of Babel, T:316 with picture ture), A:517 Tower of Fame Itemplel Jainism picture on, J:11 Tower of London, T:316 Crown Jewels, Cl:459 England (The Norman Conquest), London (Other places of interest), L:371; (The Middle Ages) L:373; picture on L:374 Raleigh, Sir Walter (His fall), R:128 Tower of Silence, T:316 Harpur] Tourette syndrome (disorder), T:311 Harpur, Charles, H:65 Tourette, Georges Gilles de la French Town [municipal unit], T:316 doctorl See also list of Related Articles Tourette syndrome, T:311 Newtown, N:137 Touring bike Town crier, T:316 Bicycle (Road bikes), B:281 Colonial life in America picture on, Tourism, T:311 Cl:182 See also Places to visit and Economy Town planning, T:317 with pictures sections in articles on major countries and cities

Total eclipse Penumbra, P:268 Total station lengineer's tool Surveyor's compass, So:446 Total war War, W:34 Totalitarianism, T:308

Columbus, Christopher (The basis of

Toscanini, Arturo [Italian conductor],

Tosi, Oscar I. [American audiologist]

Tosca lopera by Puccinil

the plan), Ci:207

T:308 with portrait

Voiceprint, V:415

Opera, 0:473

Toscanelli, Paolo

Tourism, T:311 Tourmaline [mineral], T:314 Gem picture on, G:73 Polarized light (Polarizing materials),

Tourists

Tourniquet, T:315 Tours [France], T:315 Tours, Battle of [A.D. 732] Charles Martel, C:354 Muslims (The Umayyad caliphs), Tourte, Françoise (French violin maker) Violin (History), V:399 Toussaint-Bréda, Pierre Dominique See Toussaint L'Ouverture Toussaint L'Ouverture (Haitian patriot), T:315 with portrait Haiti (History), H:18 Tovey, Sir Donald [British planist], Guided missile (Command guidance). Rocket picture on, R:318 Towards a Christian Democracy (book by Cripps) Cripps, Sir Stafford, Cl:442 See Tugboat Towed caravan Recreational vehicle, R:170 Tower [architecture], T:315 Architecture (Mesopotamian architec-Babylon (The new Babylonian Empire), Funeral customs (The funeral), F:484 Zoroastrianism (Observances), Z:508 Tower of the Dream, The locetry by See also list of Related Articles Townes, Charles Hard (American physicistl, T:319

Laser (History), L:74

Townshend Acts [1767]

T:320

Towns, Robert | Australian merchantl,

Radiochemistry, R:90

American Revolution, A:324 Tracery, T:322 with picture T:324 with portrait Townshend, Charles Film industry (Best performance by an Cathedral (Gothic cathedrals), C:265 See Townshend, Viscount Stained glass (Technical improveactor), F:96 Townshend, Peter (British musician) ments), So:264 Hepburn, Katharine, H:157 Who, The, W:241 with picture Trachea [anatomy], T:323 Trade, T:324 Townshend, Viscount, T:320 See also list of Related Articles See also list of Related Articles Invention (The Industrial Revolution), Animal (Adaptations for breathing), Barter, **B**:120 1-217 A:399 with picture City (Economy), Ci:29: Townsville [Australia], T:320 Commodity exchange, Cl:219 Human body (The respiratory system), Towton, Battle of, T:320 Continental System, Ci:317 Wars of the Roses, W:41 Lung (Parts of the lungs), L:414 with di-Economics, E:59 Towy [river, Wales], T:320 agram International trade, 1:297 Toxaemia of pregnancy, T:320 Pharynx, P:359 with picture Mercantilism, M:358 Pregnancy (How pregnancy affects Respiration (External respiration), World, History of the (The great age of women), P:742 R:239 exploration), W:350 Toxic reaction Throat, T:230 Trade, Board of Drug (Effect on the body), D:315 Thyroid gland, T:234 with diagram See Commodity exchange Toxic shock syndrome (TSS), T:320 Trachea (entomology) Trade association, T:327 Toxic wastes Insect (Respiratory system), 1:250 See also list of Related Articles Hazardous wastes, H:91 Spider (Respiratory system), So:220; Trade barrier Toxicology diagram on So:219 International trade (Government trade Pharmacology, P:358 Tracheostomy policies), i:297 Poison, P:619 Tetanus, T:165 Trade policy Toxin, T:320 Trachoma, T:323 International trade (Government trade Antitoxin, A:465 Blindness, B:389 policies), 1:297 Bacteria (Protection against harmful Chlamydia, C:474 Trade publication, T:327 bacterial, B:20 Eye (Diseases of the outer parts), E:441 Trade rat Food poisoning, F:305 Trachyte Wood rat, W:302 with picture Intoxication, 1:299 Warrumbungle Range, W:41 Trade route, T:327 Mushroom (Poisonous mushrooms), Track [railway] Armenia (People), A:580 M:724 Railway, Model, R:113 Colonialism (Early European colonial-Plant (Diseases), P:567 Railway (What makes up a railway). ism), Cj:186 Poison, P:619 R:99; (Tracks) R:100 with diagram Lake (Travel and trade routes), L:19 Tetanus, T:165 Track Itapel Pacific Ocean (Importance of the Toxic shock syndrome, T:320 Tape recorder (Erasing and recording), ocean), P:15 Toxoid [medication] Trade (The expansion of trade), T:326 T:38 Antitoxin, A:465 Videotape recorder (Recording). Trade union, T:328 Diphtheria (Prevention), D:184 V:370 Closed shop, Ci:87 Immunization (Active immunization), Track and field Economics (Distribution of incomes), 1:44 See Athletics F:62 Tetanus, T:165 Track events Industrial relations, 1:209 Toxoplasmosis (disease), T:321 Athletics (Track events), A:710 Industrial Revolution (Life during the Toy, T:321 with picture Olympic Games table on, 0:440 Industrial Revolution), I:216 See also list of Related Articles Tracked hovercraft Open shop, 0:455 Toy dog, T:322 Hovercraft (History), H:332 See also Strike Dog (Toy dogs), D:234 Tracking and Data Relay Satellite Trade wind, T:332 Toy Manchester terrier (TDRS) Air (Air movement), A:185 Manchester terrier, M:148 Satellite, Artificial (Important satellites), Calms, Regions of, C:43 Toy train S:96; picture on \$:95 Hurricane, H:388 Railway, Model picture on, R:114 Tracking poll Pacific Ocean (Wind belts), P:15 Toynbee, Arnold [British social re-Weather (General circulation of the at-Public opinion poll (History), P:841 formerl, T:322 Tracking system mosphere), W:113 Toynbee, Arnold Joseph (British histo-Space exploration (Navigation, guid-West Indies (Climate), W:170 rian], T:322 Wind (General circulation), W:267 ance, and control). So:138 Civilization (Why civilizations rise and Tractarians freligion, T:323 Trademark, T:332 fall), Cl:49 Keble, John, K:208 Trader History (Theories of history), H:225 Pusey, Edward Bouverie, P:868 City (Ancient cities), Cf:22 Trace elements, T:322 Tractate Trades Union Congress (TUC) Nutrition (Minerals), N:364 Trade unions (United Kingdom), T:331 Talmud, T:18 Prospecting (Today's prospectors), Tractatus Logico-Philosophicus (book Willis, Norman David, W:259 P:R10 Tradescantia iplanti, T:333 with picture by Wittgenstein Tracer Iradioisotopel Wittgenstein, Ludwig, W:284 Trading post, T:333 Isotope (Uses of radioisotopes), 1:428 Colonialism (Early European colonial Traction engine with diagrams Tractor (History), T:324 ism), Ci:186 Trade (The expansion of trade), T:326 Radioactivity (In research), R:89 with Tractor, T:323 with pictures pictures Agriculture (New sources of power), Trading stamp, T:333 Radiocarbon (Radiocarbon In biology), A:174 with picture Trading standards, T:333

Car (The first cars), C:166

Tracy, Spencer [American film actor],

Traditional style

Interior decoration (Style), 1:283 with

Rite of passage, R:288

lands

Transitional Mountains and Low-

11-18 Trajan (Roman emperor), T:336 picture Transept Traeger, Alfred H. [Australian engl-Sculpture (as monuments and Architecture (table), A:515 with picmemorials), S:188 with picture neer) ture; (Medieval architecture) Traian's Column Pedal wireless, P:241 A:523 Trafalgar, Battle of, T:334 Rome picture on, R:367 Cathedral (The Latin cross ground Sculpture (as monuments and Navy (The beginning of modern naplan), C:262 with diagram memorials), S:188 with picture; vies), N:60 (Roman sculpture) S:208 Transexualism Nelson, Horatio (Victory at Trafalgar), See Transsexualism Trajan, T:336 N:72 with picture Transfer payments Tram and trolleybus, T:336 with pic-Traffic, T:334 Income, I:52 See also list of Related Articles Transfer printing Trampoline, T:337 with picture Traffic control Porcelain (Decorating porcelain), Radar (In controlling traffic speed and Trance, T:337 Trance dance flow), R:57 with pictures and dia-Transfer RNA Dancing (Oriental dancing), D:24 gram Heredity (How proteins are made), Tranquillizer, T:337 Railway, R:103 Drug abuse (Abuse of legal drugs), H-171 Traffic, T:334 Transfiguration [religion], T:339 D:320: (Table) D:322 Traffic patrol Transform faults Drug (Depressants), D:313 Police, P:639 Plate tectonics (Transform plate Trans-Alaska Pipeline Traffic regulation boundaries), P:585 Transportation picture on, T:359 Traffic, T:335 Transformation geometry Trans-Australian railway Traffic safety Geometry (Rise of non-Euclidean ge-Railway (Australia), R:105 Transportation, T:360 ometry), G:98 Trans-Canada Highway, T:338 Trafford [England], T:335 Transformational grammar Trans-Siberian Railway, T:363 Tragacanth (gum), T:335 Chomsky, Noam, C:479 Asia (Life of the people), A:642 with Tragedy (drama), T:335 Transformer (device), T:339 with diapicture Drama (Forms of drama), D:285; gram Mongolia (Economy), M:560 (Roman drama) D:288; (Italian Electric current (Alternating current), Russo-Japanese War (Underlying Renaissance drama) D:290; (Elizacauses), R:502 bethan playwrights) D:291 Electric generator (Uses of AC genera-Siberia (Economy), \$:407 Literature (Forms of Literature), L:312 tors). E:148 **Trans World Airlines** Tragic Sense of Life, The Iwork by Un-Electric power (Transmission), E:160 Airline (table), A:208 amunol with diagrams Transactional analysis [psychother-Unamuno, Miguel de, U:20 Electricity (Controlling electricity), apy], T:337 Tragical History of Doctor Faustus, Transatlantic cable The iplay by Marlowel Transfusion, Blood Cable (The Atlantic telegraph cable), Faust, F:38 See Blood transfusion C:6 Marlowe, Christopher, M:215 Transistor, T:339 with diagrams and Transcaucasia (region) Tragicomedy Caucasia, C:280 Drama (Jacobean and Caroline drama), Computer (Memory), Ci:260; (The Transcaucasian Republic D:292 miniaturization of computer com-Armenia (History), A:580 Tragopan (bird), T:335 with picture ponents) Cl:266 Azerbaijan (History), A:897 Trailer Electricity (Electrons and electricity), Georgia (History), G:103 Camping, C:65 E:172 with picture Transcelver Train Electronics (Terms used in electron-Citizens band radio, Cl:14 See Electric railway; Locomotive; Railics). E:185 Transcendental Meditation (TM), Ignition (Parts of an Ignition system), way T:338 Train [watch] 1:28 with diagram Transcendental philosophy Watch (Mechanical watch), W:66 Integrated circuit, I:275 See also Yoga Train à grande vitesse Invention (Research laboratories), 1:313 Philosophy (The philosophy of Imman-Channel Tunnel, C:345 Radio (Amplifiers), R:77 uel Kanti, P:425 France (Transportation), F:410 with Semiconductor (Semiconductor de-Transcendentalism [philosophy], T:338 picture vices), S:247 American literature (Nonfiction prose), Train of Powder, A book by West Vacuum tube, V:297 A:314 West, Dame Rebecca, W:156 Transistor radio Emerson, Ralph Waldo (His prose Training Radio picture on, R:76 works), E:229 Deafness (Education and training), Transit [astronomy], T:341 Philosophy (The philosophy of Imman-D:57 Transit [instrument] uel Kant), P:425 Pet, P:321 Surveying (Early tools), So:446 Thoreau, Henry David, T:225 Training of an Orator, The book by Transit [satellite] Transcription Quintilian Satellite, Artificial (Important satellites), Heredity (How proteins are made), Quintilian, Q:30 S:96; (History) S:98 Training school H:171 Transit map Transdanubia Reformatory, R:183 Map (Mobility map), M:183 Hungary, H:378 Transition

Transducer, T:339

Oscilloscope, O:509

Instrument, Scientific, 1:267

Ultrasound (Producing ultrasound),

Heredity, H:165; (table) H:166; (Domi-

Traitor

Treason, T:368

nant and recessive genes) H:167

Bulgaria, B:636 Transitional style interior decoration (Style), 1:283 with Transitive verb Verb, V:344 Transjordan See Jordan Transjordan Plateau lordan, 1:143 Transkel (South Africal, T:341 with map Eastern Cape, E:45; (History) E:46 South African homelands, So:87 with Xhosa, X:433 Translation Heredity (How proteins are made),

Heredity (Mutation), H:168 Transmigration of the soul Reincarnation, R:190 Transmission (engine), T:341 with dia-Motorcycle, M:652 with pictures Transmission pipeline

Translocation

Gas (Transmitting and distributing gas), G:51 Transmitter

Radar, R:60 with diagram Radio (Transmitting radio waves), R:75 Sonar (How sonar works), So:39 Telephone, T:106 with diagram Television (Transmitting television signals), T:131 with diagram Transmitter (sculpture by Nels)

South Africa, Art of (Art and apartheid), So:71 with picture Transmutation of elements, T:344

Alchemy, A:235 Atom (Radioactivity), A:726 Chemistry (Beginnings), C:368 Nuclear energy (Nuclear reactions),

Particle accelerator, P:205 Radioactivity (Emission of radiation), R:88

Rutherford, Ernest, R:505 Transnational corporation

See Multinational corporation Transonic tunnel

Wind tunnel, W:269 Transparency (photography) Photography (Developing colour film). P:456 with diagrams

Transparency (physical property) Light (Reflection, refraction, and absorption), L:260

Transparency [trade] General Agreement on Tariffs and Trade (GATT), G:76 Transpiration, T:345

Leaf, L:131 Plant (Water movement), P:561 Sap (How sap moves), S:85 Water (Water in the air), W:72

Transplant [medicine] See Tissue transplant Transplant rejection

Thymus, T:234 Transplanting [gardening], T:345 with diagrams Gardening, G:39

Transport See Transportation

Transportation, T:346 with pictures See also list of Related Articles City (Physical problems), Ck35 with pictures

Climate (Transportation and climate). Ci:79 Safety (Safety in transportation), S:13

Town planning, T:315 Trade (The geographical extent of

trade), T:326 Transportation [punishment], T:362

Convicts in Australia (Transportation), Ci:320 Transportation industry

Transportation, T:360 Transposition cipher

Codes and ciphers, Cl:147 Transsexualism, T:363

Transubstantiation [religion], T:363 Wycliffe, John, W:425 Transuranium element, T:363

Transvaal [South Africa], T:364 with picture

See also list of Related Articles Gauteng (History), G:65 Kruger, Paulus, K:335 Rhodes, Cecil John (Conflict with the Boers), R:256

South Africa, So:55

South Africa, History of (The Anglo-Boer Wars), So:83 Transvaal Basin

South Africa (The Plateau), So:62 Transvaai War

Anglo-Boer Wars, A:368 with map Transverse arch (anatomy) Foot (The arches), F:316

Transverse videotape recording Videotape recorder picture on, V:371

Transverse wave Polarized light (How light is polarized), P-636

Waves, W:104 with diagram Transylvania (Romania), T:365 Hungary (Turkish and Habsburg rule), H:381

Romania, R:354

Tranter, John [Australian writer] Australia, Literature of (Modern short stories), A:832 Trap

Fishing industry, F:193 Gas (Exploring for gas), G:51 Trap-door spider, T:365 with pictures Trapeze Artist at the Medrano Circus [painting by Toulouse-Lautrec] Painting (detail), P:41

Trapezium [anatomy] Hand (Parts of the hand), H:39 Trapezoid (anatomy) Hand (Parts of the hand), H:39

Trapezoid (geometry)

Quadrilateral, Q:4

Trapping [fishing] Fishing industry, F:193 with picture

Trapping [hunting], T:366 with pictures Beaver, B:176 Fur. F:489

Trappists [religious group], T:367 Traps [play by Dürrenmatt] Dürrenmatt, Friedrich, D:356

Trapunto-stuffed quilt Quilt. 0:29

Trauma [psychiatry], T:367 Travel agency, T:368 Traveller, The [work by Goldsmith]

Goldsmith, Oliver, G:243

Traveller's cheque, T:368 Tourism (Modern mass tourism), T:314

Travelling block Petroleum (Rotary drilling), P:343

Travelling North [work by Williamson] Williamson, David, W:258 Travelling wave

Waves, W:105 Travelling-wave tube

Vacuum tube (Microwave tubes), V:299

Travels in Arabia Deserta book by Doughty)

Doughty, Charles Montague, D:272 Travels in Two Democracies (work by Wilson

Wilson, Edmund, W:261

Travels with a Donkey in the Cévennes (book by Stevenson) Stevenson, Robert Louis (Early life), So:321

Travels with Charley book by Steinheckl

Steinbeck, John, So:312 Travels with My Aunt film Cukor, George, Cl:488

Travers, Morris William (British chemict

Krypton, K:336 Neon, N:73

Travers, P. L. (Australian-born author), T:368

Travertine, T:368 Calcite, C:23

Traviata, La [book by Dumas] Dumas, Alexandre, fils, D:343

Traviata, La lopera by Verdil Opera, 0:473 with picture Verdi, Giuseppe, V:345

Travis, William Barret Texan war hero], T:368

Travols [transportation], T:368 Indian, American (Transportation), picture oni:154, I:140

Trawl [net] Fishing industry (Nets), F:191 with dia-

gram; picture on F:187 Shrimp (The shrimp industry), \$:401

Trawler [boat] Fishing industry (Nets), F:191 with disgram; picture on F:187

Treadle Weaving (Kinds of looms), W:125

Treadmill, T:368 Treason, T:368

Treasurer

Parliamentary procedure, P:194

Treatise of Human Nature, A book by

Humel

Hume, David (His life), H:367

Treatise on Harmony (book by Ra-

Rameau, lean-Philippe, R:131

Treaty [international relations], T:369 with picture

See also list of Related Articles International relations, 1:294

Treaty House

Waitangi, Treaty of picture on, W:6 Treaty of Brest-Litovsk [1918]

Union of Soviet Socialist Republics (The October Revolution), U:32

Treaty port, T:370 Treble [music], T:370

Tree, Sir Herbert Beerbohm (English actor), T:391

Tree, T:371 with pictures

See also Forest; Forest products; list of Related Articles in the Tree article

Bark, B:110 with diagrams Bonsai, B:452 with picture

Forestry (Tree improvement), F:357

Pruning, P:821 with pictures Sap. S:85

Tropical rainforest, T:414

Tree cotton

Cotton (Kinds of cotton), Ci:382 Tree farming, T:391

Tree fern

Fern picture on, F:56 Tree, T:376

Tree frog, T:392 with picture

Frog, F:468

Tree goanna

Goanna (reptile), G:221 with picture

Tree kangaroo

Marsupial (Kinds of marsupials), M:228 with picture

Tree martin Martin, M:231

Tree of Heaven

See Ailanthus Tree of life

See Eden

Tree of Man, The [book by White] White, Patrick, W:231

Tree of wisdom

See Bo tree

Tree peony

Peony, P:269 with picture

Tree shrew, T:392 with picture

Tree snake, T:393

Tree squirrei

Squirrel, So:254 with pictures

Tree surgery, T:393 Tree swift

Crested swift, Ci:422 Treecreeper (bird)

Creeper, Ci:420 with picture

Treemonisha [opera by [oplin]

Joplin, Scott, J:140 Trefoil [plant], T:393

Trek, The Great

See Great Trek

Trekboer

South Africa, History of (White expansion), So:78

Trench (oceanography)

Pacific Ocean (The ocean floor), P:14 Trench foot [disease], T:393

Immersion foot, 8:35

Trench mouth [disease], T:393 Teeth (Periodontitis), T:96

Trench warfare

World War I, W:367

Trenchard, Hugh Montague See Trenchard, Viscount

Trenchard, Viscount British military commanderl, T:393

Trengwainton Gardens [England]

Cornwall (Places to visit), Ci:360 Trent, Council of, T:393

Christianity (The Counter Reformation),

Counter Reformation, Ci:392

Trent Affair, T:394

Trent of Nottingham, Baron

See Boot, Sir Jesse

Trenton [U.S.A.], T:394

Trenton, Battle of

American Revolution, A:326

Trepang, T:394

Trephining Isurgeryl, T:394

Inca (Religion), 1:49

Indian, American (Shamans, priests, and prophets), 1:148

Medicine (History), M:313; picture on M:314

Surgery (History), So:439

Trespass (law), T:395

Trestle lengineeringl, T:395

Trevelyan, George Macaulay British historianl, T:395 Trevino, Lee (American golfer), T:395

Trevithick, Richard (British engineer), T:395

Industrial Revolution (Railways), 1:215 Invention (The Industrial Revolution), 6319

Locomotive picture on, L:352

Railway (The railway age begins), R:109

Steam engine (Modern steam engines), So:309

Trevor, William [Irish writer], T:395 Irish literature (Irish literature today),

E384

Trews Tartan, T:45

Tri-leaf philodendron Philodendron, P:419

Triad

Colour (Producing colour harmony), Cl:198 with picture

Trial, The [film]

Welles, Orson, W:145

Trial [law], T:395

See also list of Related Articles

Court. Ci:400

Judge, J:158

Trial by combat, T:397

Trial by Jury lopera by Gilbert and Sullivanl

D'Oyly Carte, Richard, D:278 Gilbert and Sullivan, G:158

Trial by ordeal Middle Ages (Barbarian Europe),

M:446 Trial by combat, T:397

Trial (History), T:396

Trial judge Judge, 1:158

Trial of the Pyx Mint, M:503

Royal Mint, R:427

Triangle Igeometryl, T:397 with diagrams

Geometry (Properties of geometric figures), G:95 with diagrams

Triangle (percussion instrument), T:398 with picture

Trianon, Treaty of, T:398

Hungary (Between world wars), H:382 Triassic Period

Australia (Mesozoic Era). A:767 Dinosaur (Kinds of dinosaurs), D:177; (table) D:178

Earth (The Mesozoic Era), E:27; (table) E-30

Prehistoric animal (Fish), P:746; (Amphibians) P:746; (table) P:746

Tribal council

Indian, American (Tribes), I:145

Tribe (social group), T:398 Indian, American (Tribes), 1:145; (map:

Where the Indians lived) 1:141 Tasmanian Aborigines (Social organization), T:63

Turkmenistan (People), T:466

Tribunal, T:399

Tribune (ancient Rome), T:399

Gracchus family, G:280

Rome, Ancient (Roman Republic), R:376

Tributary

River (The source of a river), R:289

Telbuste

Colonialism (Economic policies),

Jammu and Kashmir (History), J:27 Tribute Money, The [painting by Ma-

Masaccio, M:239

Teiburtum

folyage

Taxation (History), T:70

Tricarboxylic acid cycle Krebs cycle, K:333

Triceps (muscle) Arm, A:576 with diagram

Muscle (Skeletal muscles), M:713 with diagrams

Triceratops Dinosaur (Ornithischians), D:180; pic-

ture on D:176 Trichina (roundworm), T:399

Pork. P:691

Worm (Roundworm), W:411

Fish (Interesting facts about fish), F:152

Ocean (The nekton), 0:391

Trichinosis [disease] Trinidad and Tobago, T:404 with pic-Libya, L:237 with picture Pork, P:691 tures and man Triptych (art) Trichina, T:399 CARICOM, C:199 Bacon, Francis, B:19 Trichomonas Flag picture on. F:204 Tripura, T:409 with map Vaginitis, V:299 Hassanali, Noor, H:75 Triquetrum Trichoptera [entomology] Port-of-Spain, P:694 Hand (Parts of the hand), H:39 Insect (table), 1:262 West Indies, W:163 Trissino, Gianglorgio (Italian poet) Trichuriasis (disease) Trinidadian English[ianguage] Drama (Italian Renaissance drama), Roundworm, R:412 Trinidad and Tobago (People), T:405 D:290 Trichuris trichiura Trinitaria, La (resistance movement) Tristan and Isolde [opera by Wagner] Roundworm, R:412 Dominican Republic (History), D:261 Wagner, Richard (Later career), W:3 Trick [animal] Trinitrotoluene Tristan and isolde [poem by Gottfried] Pet. P:322 See TNT von Strassburg! Trick (cards) Trinity (religion), T:408 German literature (Epic poetry), G:107 Whist, W:230 Christianity (Beliefs), C:484 Gottfried von Strassburg, G:265 Trick-or-treating Jesus Christ (The early Christians), Tristram [poetry by Robinson] Halloween, H:24 j:101 Robinson, Edwin Arlington, R:303 Trick to Catch the Old One, A play by Mormons, M:608 Tristram Shandy book by Sternel Middletoni Protestantism (Protestant beliefs). Novel (The first English novelists), Massinger, Philip, M:247 N:312 Triclinic crystal Roman Catholic Church (The Trinity Sterne, Laurence, So:319 Crystal (Triclinic system), Cl:470 with and creation), R:335 Triticale (grain), T:410 picture Trinity College, Dublin Tritium (isotope), T:411 Tricolour [flag], T:399 Dublin, University of, D:335 Deuterium (Uses), D:143 Tricuspid valve (anatomy) Dublin (Universities), D:332 Triton (Greek mythology), T:411 Heart (Valves), H:102 Trinity House, T:408 Triton [ship] Trident [weapon] Trinobantes (ancient people) Submarine (Nuclear submarines), Gladiator, G:176 Essex (History), E:333 So:372 Neptune, N:78 Triode Triumph [ancient Rome], T:411 Poseidon, P:709 Vacuum tube, V:298 with diagram Triumph of Labour (sculpture by Chou-Trier (Germany), T:399 Trionfi (music by Orif) Trieste (Italy), T:400 Orff, Carl, O:493 Sculpture (Figurative form), S:216 Trieste [bathyscaph] Trionto di Afrodite Imusic by Orff Triumvirate (Roman history), T:411 Diving, Underwater (Submersibles), Orff, Carl, 0:493 Trogon (bird), T:411 with picture Trip Troika, T:411 Exploration (Deep-sea exploration), Hallucinogen, H:24 Troilus and Cressida Iplay by Shake-E:428 with picture Trip mileometer speare Marine biology (Blological oceanogra-Speedometer, So:209 Shakespeare, William, S:317 with plcphers), M:210 Tripe [meatl, T:408 Pacific Ocean (Exploration), P:15 Tripitaka [Indian sacred texts] Trois mouvements perpétuels imusic Piccard, Jacques, P:486 India, Literature of (Pali and Prakrit litby Poulencl Triggerfish, T:400 with picture erature), E125 Poulenc, Francis, P:726 Triglyceride, T:400 Triple Alliance, T:408 Trojan cycle [poetry] Cholesterol, C:478 Bismarck, Otto von Bismarck's diplo-Homer, H:254 Trigonometry, T:400 with diagrams macy), B:370 Trojan horse See also list of Related Articles Germany (Foreign policy), G:134 Trojan War, T:411 Mathematics (Analytical geometry and Italy (The Kingdom of Italy), 1:469 Trojan War, T:411 with picture trigonometry), M:256 World War I, W:365 See also list of Related Articles Trigram Triple Crown Ulysses, U:19 I Ching, 1:2 Rugby football (Rugby Union, Organi-Troll Trilodothyronine zation), R:445 See Fairy Hormone (Metabolic hormone), H:278 Triple Entente, T:409 Trolleybus Thyroid gland, T:234 France (World War I), F:415 See Tram and trolleybus Trilby [book by du Maurier] Germany (Foreign policy), G:134 Trollina Du Maurier (George Louis Palmella Russia (World War I), R:489 Fishing Industry, F:193 Busson du Maurier), D:344 World War I, W:365 Trollope, Anthony [English author], Triffion [number], T:403 Triple jump lathletics, T:409 T:412 Trillium [plant], T:403 with picture Trombone Imusical Instrumentl, T:413 Athletics (Jumping events), A:711; Trilobite (extinct animal), T:403 with (World athletics records) A:714 with pictures picture Music (Brass instruments), M:728 with Olympic Games (table), 0:441 Australia (Palaeozoic Era), A:767 Triple point of water picture Extinct animal (Types of extinction), Temperature, T:136 Trona [mineral], T:413 Triplet (gem) Trondheim [Norway], T:413 Fossil picture on, F:371 Gem (imitation and synthetic gems), Trooping the colour, T:413 Prehistoric animal (The first animals), Royal Family of the United Kingdom G:73 P:744; (table) P:745 with picture Triplet [multiple birth] (Meeting the public), R:424 Trimatton nanus (fish) Multiple birth, M:693

Tripoli [Lebanon], T:409

Tripoli [Libyal, T:409

Tropic bird

See Tropicbird

Tropic of Cancer, T:413

Trump suit

Pellagra, P:248

Tsar

Vitamin (Niacin), V:411

Tropic of Capricorn, T:413 Wyndham, John, W:426 Whist, W:230 Trough [physics] Tropical cyclone Trumper, Victor [Australian cricketer], Waves (Characteristics of waves). Cyclone, Ci:510 T:428 Tropical depression W:104 with diagram Trumpet imusical instrumenti, T:428 Trout [fish], T:419 with pictures Hurricane, H:387 Trouvère [poetry], T:420 with pictures Tropical fish, T:414 Music (Brass instruments), M:728 with Trovatore, II lopera by Verdil Pacific Ocean (Importance of the Opera, 0:474 picture ocean), P:15 Trumpet creeper Verdi, Giuseppe, V:345 Tropical rainforest, T:414 with pic-Bignonia, B:286 with picture Troy lancient cityl, T:421 with pictures tures and map Trumpet of the Swan, The book by Aegean civilization (The Trojan cul-Amazon rainforest, A:298 with pic-Whitel turel, A:68 White, E. B., W:231 Schliemann, Heinrich, S:126 Animal (Animals of the tropical for-Trunk ests), A:388 with pictures, (How Trojan War, T:411 Ant. A:429 Troy weight, T:422 human beings endanger animals) Palm. P:106 Avoirdupois, A:889 A:412 with picture Tree, T:377 with picture Pound. P:728 Biome map on, B:311 Trunk calls Weights and measures (table), W:139 Brazil (The Amazon Region), B:537 Telephone (Long-distance calls), T:108 Trubar, Primor [Slovenian writer] with picture Trunk road Slovenia (People), S:493 Conservation (Latin America), Ci:302 Road (Motorway), R:295 Truce, T:422 with picture Trunkhose **Trucial States** Forest, F:349 Clothing (The Renaissance), Ci:102 United Arab Emirates (History), U:40 Indian, American (Indians of the tropi-Truro (Cornwall), T:428 Truck (vehicle), T:422 with pictures cal forest), I:162 Trust Truck camper Indonesia (The islands), 1:190 Antitrust laws, A:465 Recreational vehicle, R:170 with pic-Jungle, j:168 Trust estate Plant, P:547; picture on P:547 Trust fund, T:428 Truck farming South America, So:95 Trust fund imoneyl, T:428 See Market gardening Tree, T:382 with picture Trust territory, T:429 Trudeau, Edward Livingston [Ameri-Zaire, Z:484 with picture Trustee can doctorl, T:425 Tropical seasonal forest Trust fund (How a trust fund works). Trudeau, Pierre Elliott (Canadian polit-Forest, F:349 T:428 ical leaderl, T:425 Tropical storm Trusteeship Council Canada, History of (The return of the Hurricane, H:387 United Nations (UN), U:168; (The six Liberals), C:105; (Canada since Tropical year major UN organs) U:162 1970) C:105 Year, Y:441 Trusthouse Forte, T:429 True Relation of ... Virginia, A [book Tropicbird, T:416 by Smith) Tropics, T:416 with map See Epistemology American literature (Histories), A:310 Flower (Flowers of the tropics and Truth, Sojourner | American abolition-True relief lart subtropics), F:260 with pictures Sculpture (Kinds of sculpture), S:190 istl. T:429 with portrait Tropism, T:417 Abolition movement (In the United True rib Plant (Environmental factors), P:562 States), A:13 Rib, R:259 with picture Truth istatue by Dobsoni True spavin Troposphere, T:417 Dobson, Frank, D:219 Spavin, So:203 Air, A:186 with diagram Truth serum True toad Fallout (How fallout is distributed), Thiopentone sodium, T:219 Frog (Kinds of frog), F:467 F:17 with diagram Truth table, T:429 Toad, T:268 let stream, J:107 True viper Rugby football (Rugby Union, Scoring), Weather (What makes up weather), Snake (Vipers), S:516 W:111 R:444; (Rugby League, Scoring) Viper, V:400 Trossachs (Scotland), T:417 with picture Trueman, Freddie (English cricketer), Trot [horseriding] Trypanosome [organism], T:429 with T:426 with picture Horse, H:297 with pictures picture Truffaut, François [French film direc-Trotsky, Leon [Russian political leader], Laveran, Charles Louis Alphonse, torl, T:426 T:417 with portrait Truffle [fungus], T:426 international, The (The Third Interna-Parasite picture on, P:172 Truganini (Tasmanian Aborigine), T:426 tional), 1:288 Protozoan (Flagellates), P:818 with portrait Lenin, V. I. (The October Revolution), Sleeping sickness (Cause), S:485 Trujillo Molina, Rafael Leonidas (Do-L:171 Tsetse fly, T:430 with picture minican political leaderl, T:427 Trotting [race], T:418 with picture Trypillians [ancient people] Dominican Republic (History), D:261 Troubadour, T:419 Ukraine (History), U:12 Truk Islands (Pacific), T:427 Classical music (The Middle Ages), Trypsin (enzyme) Truman, Harry S. IU.S. presidentl, Cl:59 with picture Digestive system (In the small intes-T:427 French literature (Lyric poetry), F:445 tine), D:172 Independence, 1:54 Minstrel, M:502 Tryptophane Potsdam Conference, P:721 Poetry (Medieval poetry), P:615

President of the United States (table),

Public opinion poll (History), P:841

P:769

Storytelling (The Middle Ages), So:340

Trouble with Lichen book by Wynd-

hami

New Zealand (Animal life), N:160

Tuba [musical instrument], T:431 with

Reptile, R:231 with picture

Tufa [rock]

Tufted fabric

Sculpture (Etruscan sculpture), S:207

See Cyar Textile, T:171 Tsaritsvn Music (Brass instruments), M:728 with picture Rugs and carpets, R:450 with picture See Volgograd Tsar's Bride, The lopera by Rimsky-Tube foot Tugboat, T:436 Echinoderm, E:52 Korsakov Barge, B:109 Rimsky-Korsakov, Nikolai, R:278 Tube worm, T:432 Ship (Specialized types of vessels). Tschaikowsky, Peter Ilich Pacific Ocean (Ocean life), P:15 S:381; (Navigating a ship) S:382 See Tchaikovsky, Peter Ilich Transportation (Water transportation). Tube [electronics] Tschermak, Erich von (Austrian scien-Television (The picture tube), T:132 T:348 Tugendhat, Sir Christopher (Common Vacuum tube, V:297 Heredity (The birth of genetics), H:174 Tube [transport] Market commissionerl. T:436 **Tschermakite** Tughluq, Muhammad bin Indian suj-London (Transportation), L:372 Hornblende, H:281 Tuber, T:432 tan], T:436 Tserclaes, Johan Tugurios Oxalis, 0:531 See Tilly, Count of Potato (The potato plant), P:718 with Colombia (Way of life), Cl:171 Tsetse fly, T:430 with picture pictures Tui (bird), T:436 Bruce, Sir David, B:596 Vegetable, V:322 with picture Tuileries (Paris), T:436 Disease, D:189 **Tuberculoid leprosy** Tukaram [Indian poet] Fly (table), F:279 Leprosy (Symptoms), L:183 India, Literature of (Gujarati and Mara-Sleeping sickness (Cause), S:485 Tuberculosis, T:432 with diagrams thi literature), I:127 Tsiolkovsky, Konstantin E. Russian AIDS (Opportunistic illnesses), A:179 Tularaemia idiseasel, T:436 Bacteriology (History), B:23 Tulip [flower]. T:436 with picture Exploration (Space exploration), E:428 BCG, B:164 Tulip tree, T:437 with picture Rocket (Rockets of the early 1900's), Dairying (Dairy farming regulations), Tull, Jethro (English farmer), T:437 D:7 Agriculture (The invention of new farm Space exploration (Early days of space Lupus, **L:417** equipment), A:173 with picture flight), So:140 Races, Human (Susceptibility to ge-Invention (The Age of Reason), I:316 Tsonga [people], T:430 netic diseases), R:48 Tuily Falls [Australia], T:437 South Africa (People), So:58 Scrofula, S:184 Tulsa [U.S.A.], T:438 Trudeau, Edward Livingston, T:425 Tulsidas [Indian poet] See Toxic shock syndrome Tuberose (plant), T:434 with picture India, Literature of (Hindi literature), Tsubouchi Shoyo [Japanese author] Tubeworm 1:127 Japanese literature (The modern pe-See Tube worm Tumbler [machine] riod), J:64 Tubing Dry cleaning (How clothes are dry Tsunami Glass, G:190 cleaned), D:326 Bangladesh picture on, B:86 Petroleum (Completing the well), Washing machine, W:51 Disaster (Natural disasters), D:187; PALLS Tumbleweed [plant], T:438 (table) D:187 Tubman, Harriet (American public fig-Thistle, T:222 Earthquake, E:35 urel, T:435 with portrait Tumbling Flood (Seacoast floods), F:229 Abolition movement (In the United Peridot, P:282 Krakatau, K:333 States), A:13 Tumboa Ocean (Waves), 0:395; picture on Slavery (Conditions of slavery), \$:482 See Welwitschia 0:387 Tubman, William V.S. Ipresident of Li-Tumen River Pacific Ocean, P:14 berial, T:435 Korea (The Northern Mountains), Tidal wave, T:240 President (Unlimited presidency), K:325 West Indies (Land), W:169 P:766 Tumors of the Nervus Acusticus Tswana (language), T:430 **Tubular** belis [book by Cushing] Tswana [people] Chimes, C:427 Cushing, Harvey, Ci:505 Botswana (People), B:482 Tubular lock Tumour, T:438 Free State (History), F:432 Lock, L:350 with diagram See also list of Related Articles South Africa (People and ancestry), Tuchman, Barbara Werthelm (Ameri-AIDS (Opportunistic Illnesses), A:179 So:58 can historianl, T:435 with portrait Birthmark, B:369 Transvaal (History), T:364 Tucker, James [Australian writer] Brain, B:517 Tua Mariit Wemen and the Wedo, Australia, Literature of (The develop-Ear (Diseases), E:12 The [poem by Dunbar] ment of the novel), A:830 Monoclonal antibody, M:568 Dunbar, William, D:348 Tucker, Albert [Australian painter], Oncology, 0:451 Tuamotu Islands (South Pacific), T:430 T:435 Skin, S:470 Tuareg [nomads], T:430 with picture Tuckey, James [Australian writer] Tumpline Berbers, B:241 Australia, Literature of (Early prose), Indian, American (Transportation), Mali (People), M:114 A:830 Niger (People), N:203 Tucson [U.S.A.], T:435 Tuna (fish), T:438 with pictures Sahara (People), S:19 Tucumán [Argentina], T:436 Tuna [fruit] Turban picture on, T:446 Tudor, House of English history). Prickly pear, P:775 Walata, W:9 Tunbridge Wells [England], T:439 T:436 Tuart [tree], T:431 Edward VI, E:94 Kent (Local government), K:219 Tuatara, T:431 with picture Tuesday, T:436 Tundra, T:439 with picture

Animal (Animals of the polar regions),

Asia (Deserts and plains), A:646

Turtle dove [bird], T:475 with picture

Sculpture (Pacific Islands sculpture),

Turtle sheli

Turkish rugs Biome map on, B:311 Tonga (History), T:295 Flower (Flowers of the Arctic tundra). Tupou II (king of Tonga) Rugs and carpets, R:452 Turkmenistan, T:466 with picture and F:251 with pictures; (Flowers of Tonga (History), T:295 the alpine tundras) F:257 with pic-Tupou IV [king of Tonga] Commonwealth of Independent Tonga (History), T:295 tures States, Ci:222 Plant, P:546 with map Turaco Flag picture on, F:207 Prehistoric people (The spread of set-See Touraco Turkmens [people] Turban, T:446 with pictures tlement), P:758 Turkmenistan (People), T:466; (History) Turbine, T:447 with pictures Russia (Land regions), R:475 T:468 See also list of Related Articles **Tundra** pond Pond (Kinds of ponds), P:668 Turkoman rugs Turbinia [ship] Rugs and carpets, R:452 Parsons, Sir Charles, P:203 Tundra vole Turks (people), T:468 Turbocharger Vole. V:421 Armenia (History), A:580 with map Petrol engine (Air and fuel), P:332 **Tundra** wolf Bulgaria (Population and ancestry), Turbodrill Wolf, W:285 Petroleum (Directional drilling), P:344 Crusades (How the Crusades began), High-fidelity system, H:196 with pic-Turbofan Jet propulsion, J:106; (Kinds of Jet en-Ch462 Egypt (Turkish and French control), gines) J:104 with diagram Radio. R:79 with picture F:114 Turbojet Tung oil, T:440 Muslims (The Muslim Turks), M:744 Jet propulsion, J:103; (Kinds of jet en-Tung tree Seliuks, S:245 gines) J:104 with diagram Tung oil, T:440 with picture Turkestan, T:453 Whittle, Sir Frank, W:241 Tungsten [element], T:440 Turkey (Population and ancestry), Turboprop Hydrogen (Uses), H:405 jet propulsion, J:106; (Kinds of jet en-Welding (Arc welding), W:143 Turks and Calcos Islands, T:469 with gines) J:104 with diagram Wolframite, W:289 picture Turbot [fish], T:452 with picture Tungsten carbide Turks Passage Turforass Tungsten, T:440 Turks and Caicos Islands, T:469 Grass, G:303 Tungsten steel Turmeric [plant], T:470 with picture Turgeney, Ivan (Russian author), T:452 Alloy (Alloys of iron), A:278 Turmoil, The Ibook by Tarkingtoni with portrait Mushet, Robert Forester, M:721 Tarkington, Booth, T:45 Drama (Russian drama and Chekhov), Tungsten, T:440 Turn of the Screw, The book by D-298 Tunic, T:440 with picture Russian literature (Early realism), R:499 lames Rome, Ancient (Food, clothing, and James, Henry, J:22 Turin [Italy], T:452 shelter), R:373 Turner, Ethel |Australian author], T:470 Turing, Alan Mathison (English mathe-Toga. T:274 Turner, J. M. W. [English painter], T:470 matician), T:452 Tunicle with picture **Turing machine** See Tunic Painting (Romanticism), P:68 with pic-Turing, Alan Mathison, T:452 Tuning fork, T:441 ture on P:71 Turk in Italy, The lopera by Rossini) Medicine picture on, M:307 Turner, Nat [American slave], T:471 Rossini, Gioacchino Antonio, R:404 Sound, So:46 Turning Turkestan, T:453 with picture Tunis (Tunisial, T:441 with map Machine tool, M:15 See also list of Related Articles Tunisia, T:441 with pictures and map Turnip [plant], T:471 with picture Turkey, T:454 with pictures and maps Aviation (Aircraft nationality marks), Turnip greens [food] See also list of Related Articles A:881 Turnip, T:471 Ankara, A:422 with picture Flag picture on, F:202 **Turnout** Atatürk, Kemal, A:703 Tunis, T:441 with map Dancing (Ballet), D:22 Aviation (Aircraft nationality marks), Tunnel, T:443 Turnpike Act of 1844 A:881 See also list of Related Articles Rebecca riots, R:161 Egypt (Turkish and French control), Arlberg Tunnels, A:576 Turnstone (bird), T:471 E:116 Channel Tunnel, C:345 Turntable Flag picture on, F:207 Saint Gotthard tunnels, \$434 Record player, R:163 Tunnel vision Kurds, K:342 Turpentine (liquid), T:471 Romania (Turkish rule), R:356 Eye (Diseases of the retina), E:442 Turpentine [tree], T:471 Russo-Turkish wars, R:503 Tunney, Gene [American boxer], T:445 Turpin, Dick [English robber], T:472 World War I (Political consequences), Tunny Turquoise [mineral], T:472 See Tuna Turret World War II (table: The Allies), W:381 Tunstall [England] Tank, T:28 Turkey [bird], T:466 with picture Staffordshire (Places to visit), So:261 Turtle, T:472 with pictures Tupac Amaru [Peruvian adventurer] Poultry, P:726 Animal (Fins, Tails, and flippers), Turkey red (colour) Indian, American (Indians of the A:398; (How animals raise their Madder, M:27 Andes), I:162 young) A:406; (Animal travellers) Turkey vulture Peru (Spanish conquest and rule), A:410 Vulture (New World vultures), V:430 P:315 Reptile, R:231 Tupelo [tree], T:446 with picture with picture Terrapin, T:158 with picture Tupinambá [tribe] Turkish Bath

Bath, B:150

Turkish guard dog

Anatolian shepherd, A:350

Indian, American (Indians of the Tropi-

cal Forest), 1:162

Tupou I (king of Tonga)

Twa [people]

Burundi (People), B:666

Ruanda-Urundi, R:428

S:204 Two Cheeseburgers with Everything Twain, Mark [American author], T:479 Isculpture by Oldenburg! Turtle [ship] with picture Oldenburg, Claes picture on, 0:428 Submarine (Early submarines), So:371 American literature (Humorists and Two Gentlemen of Verona, The play with picture local colorists), A:315 with portrait Turukhansk dam United States, History of the (The by Shakespearel Shakespeare, William, S:311 Dam (Some important dams), D:14 Gilded Age), U:254 Tuscan column [architecture] Tweed [fabric], T:479 Two-person voileyball Architecture (table), A:515 with picture Tweed, River, T:479 Volleyball, V:422 Column (The Roman orders), Cl;214 Borders Region (Rivers and lakes), Two Sicilies, Kingdom of the with picture See Sicilies, Kingdom of the Two Tuscany [Italy], T:476 Tweeddale liocal government districtl, Two-stroke cycle Tusche (drawing material) T:480 Petrol engine (Cycle), P:331 with dia-Silk-screen printing picture on, \$:425 Borders Region (Local government), gram Tusk (zoology) B:467 Two-stroke engine Elephant (Tusks and teeth), E:204 with Twelfth Night, T:480 Diesel engine (Kinds of diesel enpictures Twelfth Night [play by Shakespeare] gines), D:169 Narwhal, N:25 Shakespeare, William, \$:315 Two Towers, The (book by Tolkien) Plg (Teeth), P:493 12 Million Black Voices book by Tolkien, J. R. R., T:288 Walrus, W:28 with picture Wright) Two Treatises of Government book Tuskegee Institute Wright, Richard, W:419 by Locke) Washington, Booker T., W:52 Twelve Tables, Laws of the, T:480 Philosophy (The Age of Reason), P:425 Tussaud, Madame 12-tone music Political science (Constitutionalism), See Tussaud, Marie Gresholtz Music (The elements of music), M:729 Tussaud, Marie Gresholtz | Swiss mo-Twelve Tribes of Israel Two Voyages to Campeachy (book by deller), T:476 Jacob, J:B Dampierl Tussock moth, T:476 with picture Jews (Beginnings), J:112 Dampier, William, D:18 Moth picture on, M:642 Joseph (Settling his family in Egypt), Twofold Bay [Australia], T:481 Tussore (wild silk) TWX West Bengal (Local crafts), W:159 Telegraph (Faster and better service), Palestine (Early history and Hebrew Tut-ankh-amen (book by Carter) settlement), P:102 with map Carter, Elliot, C:213 Religion (Judaism), R:201 Twyborn Affair, The book by White Tutankhamen (king of ancient Egypt), Twenties, The [work by Wilson] White, Patrick, W:232 T:476 with pictures Wilson, Edmund, W:261 Tyburn Tree (gallows), T:481 Egypt, Ancient (The New Kingdom), Twenty-eight (Australian parrot), T:480 Tyche E:128 Twenty-sixth of July Movement. -Fortuna, F:365 Mummy, M:700 T-480 Tyler, John IU.S. presidentl, T:481 **Tutbury** [England] Cuba (The Castro revolution). Cl:481 Tyler, Wat [English rebel] Staffordshire (Places to visit), So:261 Twenty Thousand Leagues Under England (The Hundred Years' War), **Tutorial** the Sea [book by Verne] F:276 Oxford University (Educational pro-Verne, Jules, V:347 Poll tax, P:655 gramme), O:533 Twenty Years at Hull House book by Riot (History), R:286 Tutsi (people) Addams] Wat Tyler's Rebellion, W:65 Burundi, B:665; (People) B:666; (His-Tylor, Sir Edward Burnett British an-American literature (Nonfiction writtory) B:666 ers), A:316 thropologistl, T:481 Ruanda-Urundi, R:428 Twice-cut philodendron Animism, A:422 Rwanda (History), R:507 Religion (The origin of religion), R:200 Philodendron, P:419 Tutu (ballet costume) Twice-Told Tales [work by Hawthorne] Tylosaur Ballet (Costumes), B:53 with picture Hawthorne, Nathaniel, H:88 Prehistoric animal picture on, P:746 Dancing (The rise of romanticism). Twilight, T:480 Tymbal Twilight of the Gods, The lopera by Cicada, Ci:1 Tutu, Desmond (South African civil Wagner] **Tympanotomy** rights leader], T:477 with portrait Wagner, Richard (Later career), W:3 Surgery (Some common surgical oper-Nobel Prizes (Peace), N:235 Twill [weave], T:480 ations), So:438 Tutuila (Island, Pacific) Gabardine, G:2 Tympanum American Samoa, A:329 Deafness (Types of hearing disorders), Textile, T:171 Samoa, S:62 Weaving, W:124 with picture Tuva [Russia], T:477 Tyndale, William [English religious Twin-lens reflex camera Tuvalu (island), T:478 with picture Camera, C:58 with picture leaderl, T:481 Bible (Early English translations), 8:276 Flag picture on, F:207 Photography, P:450 Kiribati (History), K:288 Twine, T:481 Puritans (History), P:866 Tuve, Merie A. [American physicist] Rope, R:394 Tyndall effect Radar (The first uses of radar), R:61 Twinflower [plant], T:481 Suspension, So:447 Tuvinians (people) Tyndall, John, T:481 Tuya, T:477 Multiple birth, M:693 with picture Ultramicroscope, U:17 Tyndall, John (British physicist), T:481 Reproduction, Human (Multiple birth), See Television

R:227

Twister

Siamese twins, \$:405

Rope (How rope is made), R:395

Tyne [river, England], T:482

Arms picture on, A:586

Tyne and Wear [England], T:482

See also list of Related Articles

Tynedale (England), T:483 Tynwald [government] Man, Isle of (Government), M:139 Type [printing], T:483 Linotype, L:296 with picture Photo composition, P:433 with picture Type I diabetes Insulin (Diabetes), 1:271

Type II diabetes

Insulin (Diabetes), 1:271

Typecasting Gutenberg, Johannes, G:432

Linotype, L:296 Newspaper (Setting the type), N:182

Photocomposition, P:433

Printing (New presses and typecasting machines), P:787

Type, T:483

Typeface

Printing (Typesetting), P:781 **Typesetting**

Printing, P:781

Typewriter, T:485 with pictures Communication (In the late 1800's),

Cl:232

Edison, Thomas Alva (The Wizard of Menlo Parkl, E:79 Glidden, Carlos, G:205

Typhoid fever, T:487

Jenner, Sir William, 1:84

Reed, Walter, R:178

Typhold Mary [American public figure], T:487

Typhoon, T:488 with picture

Cyclone, Ct:511 Hurricane, H:388

Pacific Ocean (Typhoons and hurricanes). P:15

Weather (Hurricanes), W:117

Typhus [disease], T:488 Typography

Illustration (Printed illustrations), 1:34

Tyrannosaurus

Dinosaur (Theropods), D:177; pictures on D:176, D:179

Prehistoric animal (Dinosaurs), P:745 with picture

Reptile (The evolution of reptiles), R:233

Tyranny igovernmenti, T:489 Tyrant

Greece, Ancient (New forms of gov-

ernment), G:353 Tyre, T:490 with pictures

Dunlop, John Boyd, D:350

Rubber pictures on, R:431 Tyre (History), T:491

Tyre lancient Phoenician seaportl, T:491 Phoenicia (Trade and manufacturing),

P:429; (Religion) P:429; (The spread of Phoenician influence) P:429

Tyrian purple

Dye (Kinds of dyes), D:362 Tyrol (Austria), T:491 with picture and

Tyrone [Northern Ireland], T:492 with pictures and map

Arms picture on, A:588

Tyrone, Earl of [Irish public figure], T-494

Tyrosine

Phenylketonuria (PKU), P:361

Tyrothricin lantibiotic

Dubos, René Jules, D:336

Tyrrell, Joseph Burr [Canadian geologist], T:494

Tyrrhenian Sea, T:494

Tyson, Mike [American boxer], T:494 with portrait

Tyuratam Cosmodrome (Kazakhstan) Space exploration (Back into space), So:160

Tywi [river]

See Towy

Tzara, Tristan

Dadaism, D:2



U (letter), U:1 with picture

U-234 lisotope) Uranium (Uranium Isotopes), U:273

U-235 (isotope), U:2

Dempster, Arthur Jeffrey, D:106

Nuclear energy (Experimental breeder reactors), N:331

Nuclear energy (Fuel preparation), N:322

Nuclear energy (Isotopes), N:320 Nuclear energy (Nuclear fission), N:321 Nuclear energy (The full development

of nuclear energy), N:319 Uranium (Uranium isotopes), U:273; (Refining and processing urantum

оте) U:274

U-238 (isotope)

Nuclear energy (Isotopes), N:320; (Nuclear fission) N:321; (Fuel preparation) N:322; (Experimental breeder reactors) N:331

Nuclear weapon (Thermonuclear weapons), N:335

Radioactivity (Alpha radiation), R:88 Uranium (Refining and processing ura-

nium ore), U:274 Uranium (Uranium isotopes), U:273

LI-239 [isotope]

Uranium (Radioactivity and fissionability), U:274

Li-boat

Submarine (World Wars I and II),

So:372 Warship (Warships in the two world wars), W:46

World War II (The Battle of the Atlantic), W:387

U Nu

See Nu, U

U Thant

See Thant, U

Uachtarán (title) Ireland, Government of, 1:363 President (Nonexecutive presidents), P:766

UAE

See United Arab Emirates

See United Arab Republic

Ubangi (people), U:2

Ubangi River [Africa], U:2 **Ubudiah Mosque**

Perak, P:273 picture on

Uccello, Paolo (Italian painter), U:2

Udaipur (India) Rajasthan (Places to visit), R:126

Uffington (England) Oxfordshire (Places to visit), 0:534

Uffington White Horse White Horses, W:233

Uffizi Palace [[taly], U:2

See Unidentified flying object

Ugall [food]

Tanzania (Food and drink), T:33 Uganda, U:2 with pictures and map

See also list of Related Articles Aviation (Aircraft nationality marks), A:881

Flag picture on, F:202 Obote, Apollo Milton, 0:379

Ugyen Wangchuk [king of Bhutan] Bhutan (History), B:268

U.H.F. waves

See Ultrahigh frequency waves

Litianders

Anglo-Boer Wars (The second Anglo-Boer War), A:369

See United Kingdom

Ukraine, U:4 with pictures and map Bush, George (Foreign affairs), B:669 Commonwealth of Independent

States, Cl:222

Flag picture on, F:209 Nuclear weapon (Limiting numbers), N:340

Ukrainian language Ukraine, U:6

Ukrainian Orthodox Church

Ukraine (Religion), U:8 Ukrainian Soviet Socialist Republic

Ukraine, U:4 Ukrainians (people)

Ukraine (People), U:6

Ukulele, U:14 with picture

Music (Plucked stringed instruments), M:728

Ulan Bator (Mongolia), U:14

Ulag (sport) Uzbekistan (People), U:293

Ulbricht, Walter [Communist leader of

East Germanyl, U:14

Ulcer, U:14 with diagram Dysentery (Causes and symptoms),

D:366

Ulithi (island, Pacific), U:15

Ulm, Charles [Australian aviator], U:15 with portrait

Ulna [anatomy]

Arm, A:576 with diagram Wrist, W:421

Ulnar nerve

Penelope, P:257

Under the Banyan Tree and Other Funny bone, F:487 Ulysses (space probe) Uister [ireland], U:15 with picture and Space exploration (Solar probes), Stories [book by Naravan] 50:144 Narayan, R. K., N:24 Under the Sign of Saturn lessays by Arms picture on, A:587 Ulvsses [book by loyce] Ireland, History of (The plantation of Irish literature (Modern Irish litera-Sontag] Ulster), 1:371 ture), 1:383 Sontag, Susan, So:42 Ulster cycle loyce, James, J:152 Underactive thyroid Irish literature, 1:381 Novel (New directions in the novel), Thyroid gland, T:235 Mythology, M:760 N:313 Undercoat Paint (Household paints), P:23 **Ulster Volunteer Force** Umar ibn al-Khattab Ireland, History of (The Volunteer Muslims (The first caliphs), M:743 Undercover agent Police (Investigating crime), P:640 movements), I:376 Umbel (botany) Ultima Thule (ancient literature), U:17 Inflorescence, 1:232 Underdeveloped country Exploration (The ancient Greeks), E:418 Umber [pigment], U:20 See Developing country Ultima Thule (book by Richardson) Umbilical cord lanatomyl, U:20 Underground (politics), U:21 Richardson, Henry Handel, R:268 Pregnancy diagram on, P:742 Underground mining Ultimatum, U:17 Reproduction (Development), R:226 Mining, M:493 Ultra secret Umbilicus (anatomy) Underground railroad [U.S. history] World War II, W:402 Umbilical cord, U:20 Abolition movement (In the United Ultrahigh frequency waves (UHF), Umbra States), A:13 U:17 Penumbra, P:268 Slavery (Conditions of slavery), S:482 Television (Broadcasting), T:131 Shadow, S:295 Tubman, Harriet, T:435 Ultramarine (pigment), U:17 Sunspot, So:427 Underground railway, U:22 Ultramicroscope, U:17 Umbrella, U:20 Underground survey Ultrasaurus Umbrella tent Surveying (Types of surveys), So:445 Dinosaur (Saurischians), D:177 Tent (Kinds of tents), T:152 with pic-Understanding Fiction (work by War-Ultrasonic bonding ren] Welding (Deformation bonding), Umbrelfabird, U:20 with picture Warren, Robert Penn, W:40 W:143 Umfolozi (South Africa), U:20 Understanding Poetry [work by War-Ultrasonic machining **Umpire** renl Machine tool (Other advanced ma-Cricket, Ch427 with picture Warren, Robert Penn, W:40 chining operations), M:17 TIN Undertaker Ultrasonic transducer See United Nations Funeral customs (Preparation of the Ultrasound (Producing ultrasound), Unamuno, Miguel de [Spanish writer], body), F:484 U:TB 11:20 Underwater diving Ultrasound, U:17 with pictures Unanimism See Diving, Underwater Acoustics (Other areas of acoustics). Romains, Jules, R:335 Underwater operation 4/26 Unbidden Guest, The book by Hor-Submarine, So:370 Medicine (Other technological adnungl Underwing moth vances), M:319 Hornung, E. W., H:283 Moth, M:642 with picture Physics (Sound), P:473 Uncertainty principle Underworld Radiology, R:91 Quantum mechanics, 0:6 Crime (Organized crime), Cl:436 Reproduction, Human (Checking the Unclay [book by Powys] **Underworld** [mythology] fetus), R:229 Powys (family) (Theodore Francis), Hades, H:4 Sonar, So:39; (Uses of sonar) So:40 Styx, So:367 Sound (Using sound), So:53; (Recent Uncle Remus Underwriting, U:22 developments) So:54 American literature (Realists), A:315 Undset, Sigrid [Norwegian author], Test tube baby (Techniques), T:161 Harris, Joel Chandler, H:67 U:23 Uitraviolet rays, U:18 Uncle Sam, U:20 **Unearned** income Astronomy (Space exploration), A:699 Uncle Tom's Cabin [book by Stowe] Income, 1:52 Colour diagram on, Cl:193 American literature (The sentimental Unemployment, U:23 Electromagnetic waves (Uses of elecnovel), A:311 Great Depression, G:319 tromagnetic waves), E:176 Stowe, Harriet Beecher, 5:341 Industry, 1:223 Light (Electromagnetic waves), L:259 Technology (Technological unemploy-Uncle Tom's Children [book by Wright] Ozone, O:542 Wright, Richard, W:419 ment), T:87 Space exploration (Protection against Uncle Vanya [play by Chekhov] Unemployment insurance the dangers of space), So:135 Drama (Russian drama and Chekhov), Social welfare, So:6 Sun lamp, So:422 D-29n UNESCO, U:24 Sun (Solar radiation), So:419 Unconditioned reflex Uneven parallel bars Ultraviolet spectrometer Gymnastics, G:442; picture on G:441 Reflex action, R:179 Instruments, Scientific (Spectrome-Unfinished Tales [book by Tolkien] Unconscious [psychology], U:21 ters), 1:268 See also list of Related Articles Tolkien, J. R. R., T:288 Ultraviolet telescope Jung, Carl Gustav (His theories), J:168 Unforgiven [film] Telescope, T:115 Unconsciousness Eastwood, Clint, E:50 Ulverston [England] First aid (Fainting), F:146 Ungulate [zoology], U:25 Cumbria (Places to visit), Ci:496 Unction See also list of Related Articles Ulysses [Greek mythology], U:19 See Anointing of the sick Hoof, H:273 Odyssey, 0:411 Unholy Loves [book by Oates]

Under Milk Wood work by Thomas]

Thomas, Dylan, T:222

Oates, Joyce Carol, 0:376

Bosnia-Herzegovina (History), B:475

nicameral	Moscow, M:624 with pictures and	United Arab Emirates, U:38 with pic-
Legislature, L:156	map	tures and maps
Penn, William (Arrested again), P:261	Nizhniy Novgorod, N:224	Flag picture on, F:207 United Arab Republic (U.A.R.), U:41
NICEF, U:25	Novel, N:313	United Arab States
Library (International library pro-	Peter I, the Great, P:324	See United Arab Republic (U.A.R.)
grammes), L:228	Rasputin, Grigori Yefimovich, R:140	United Church of Christ, U:41
United Nations (Aid to children), U:172	with picture Romania (Russian control), R:356 ; (Op-	United Empire Loyalists (Canadian his-
with picture	position to the U.S.S.R.) R:358	tory
nicorn [legendary animal], U:26 with	Romanov, R:359	Canada, History of, C:99; picture on
picture	Russia (History), R:484	C:101
nicycle (vehicle), U:26 with picture	Russo-Finnish wars, R:502	United Irishmen, U:41
nidentified flying object (UFO), U:26	Russo-Japanese War, R:502	United Kingdom, U:42 with pictures
nification Church	Russo-Turkish wars, R2503	and maps
Cult (Modern cults), Ci:489 nification of Germany [1990]	Satellite, Artificial (History), S:96 with	See also list of Related Articles with
Berlin (A united Berlin), B:254 with pic-	picture	the United Kingdom article
	Sculpture (As monuments and	Agriculture, A:169
ture	memorials), S:188 with picture	Aviation (Aircraft nationality marks),
Berlin Wall, B:255 Germany, G:112 with picture; (The	Soviet, So:123	A:881
unification of East and West Ger-	Space exploration, So:128 with pic-	Ballet (Ballet in Europe), B:57
	tures	Barbados (Way of life), B:102
many) G:139 Kohl, Helmut, K:313	Tajikistan (History), T:14	Dominica (History), D:257
nified field theory	Turkmenistan (History), T:466	Egypt (British control), E:117
Relativity (General relativity theory),	Ukraine (History), U:12	Flag (National flags), F:212 with pic-
L193	Uzbekistan (History), U:294	ture; picture on F:208
niform [clothing], U:27	Wine (World production), W:274	Girl Guides and Girl Scouts, G:171
Cothing (Who people are), Ci:90 with	Union, Act of [1707], U:27	Government, G:275
picture	England (The Augustan Age), E:279	Immigration (1945-1960, Easing of Im-
niformity, Act of, U:27	Parliament (Parliament gains strength),	migration rules), I:37; (1960 ent
nincorporated proprietary insurer	P:192	day. New patterns of immigration)
Insurance (Types of insurance compa-	Peer of the realm (History), P:245	1:37
nies), I:275	Scotland, History of, S:173	Parliament (The United Kingdom Par-
nion Islands	United Kingdom, History of the (The	liament), P:190 with pictures
Tokelau, T:276	union of the kingdoms), U:138	Police, P:642
nion of Kalmar	Union, Act of [1801], U:27	Railway, R:108
Sweden (Union with Norway and Den-	George III, G:100	Royal families, R:420
mark), So:473	Ireland, History of (The struggle for	Scouting, S:182
nion Jack (ballet)	rights), 1:374	Telephone, T:109
D'Amboise, Jacques, D:17	Northern Ireland (Union with Britain),	Television, T:126
monjack [flag], U:27	N:275	Transportation, T:362
Flag (National flags), F:212 with picture	Pitt (William Pitt the Younger), P:526	Trinidad and Tobago (History), T:407
nion of South Africa	United Kingdom, History of the (Ire-	United Kingdom of Great Britain and
Smuts, Jan Christiaan, S:503	land), U:144	Ireland
South Africa, History of, So:83	Union, Acts of	See United Kingdom
nion of Soviet Socialist Republics	Canada, History of (Lord Durham's re-	United Kingdom, Armed services of
(U.S.S.R.), U:28	porti, C:100	the, U:66 with pictures
See also list of Related Articles with	Union Party	United Kingdom, Arts of the, U:82
the Union of Soviet Socialist	See Republican Party	with pictures See also list of Related Articles
Republics article	Unionist parties [Northern Ireland],	United Kingdom, Educational sys-
Albania (History), A:230	11:37	tems of the, U:94
Armenia (History), A:580	Unique Forms of Continuity in Space	See also list of Related Articles
Azerbaijan (History), A:897	(sculpture by Boccioni)	Open University (The United Kingdom
Communism (Communism in the So-	Sculpture (Movement), S:191; (Modern	Open University), 0:455
viet Union), Ci:240; (The decline	international sculpture) S:215 with	United Kingdom, Geology of the,
of Communism) Ck243	picture	U:104 with pictures
Gorbachev, Mikhail Sergeyevich,	Unit [measurement], U:37	See also list of Related Articles
G:256	Unit cell	United Kingdom, Government of the,
Immigration (1960-present day. New	Crystal (Crystallization), Ci:469	U:110 with pictures
patterns of immigration). 1:37	Solid-state physics, So:30	Local government, L:346
International relations (The Cold War	Unit territory	United Kingdom, History of the, U:124
begins), 1:295; (The Cold War	Cayman Islands (History), C:289	with pictures
ends) 1:296	Unit trust [investment], U:38	See also list of Related Articles
International relations (The collapse of	Unitarians (religious group), U:38	United Kingdom, Legal systems of
the Soviet Union) 1:296	Homer, H:254	the, U:155
"On and steel (Chief producers), 1:399	Unitary system	United Nations, U:160
"ALAKNSTAN (History) K:206	Government, G:271	See also list of Related Articles with
7'9YZSTan (History) K-3.49	Local government, L:346	the United Nations article
Moldova (Romanian and Soviet rule),	United Airlines	Bosnia-Herzegovina (History), B:475

Airline (table), A:208

M:530

United Nations (Aid to refugees), U:171

Agency for Palestine Refugees in

United Nations (Aid to refugees), U:172

United Nations Relief and Works

the Middle East (UNRWA)

United Nations World Food Confer-

United Nations University, U:181

ence

United Nations (Fighting hunger), **U:173** United Party (UP) [South Africa] South Africa, History of (Formation of the United Party), So:84 United Political Organization National Front (UPONF) Yemen (Formation of Yemen (Aden)), V:450 United Press International (UPI) [news agency], U:181 United States Pharmacopeia [book] Pharmacopoela, P:358 **United States Air Force** Air force, A:197 See also United States, Armed services of the **United States Army** Army, A:592 See also United States, Armed services of the **United States Capitol** Washington, D.C., W:56 **United States Coast Guard** iceberg (ice patrols), 1:18 United States Federal Bureau of Investigation (FBI) Federal Bureau of Investigation, F:44 Hoover, J. Edgar, H:275 United States, U:182 with pictures and See also list of Related Articles Agriculture, A:170 ANZUS, A:469 Architecture (Colonial architecture in America), A:530 with picture: (Early modern architecture in America) A:300 with pictures Aviation (Aircraft nationality marks), Ballet (Ballet in the United States), B:57 Canal. C:112 Car, C:164 Communism (The Cold Warl, Ch242) Copyright (International conventions), Cl:346 Cotton (Leading cotton-producing countries), Ci:384 Cuba (Struggle against Spain), Cl:480 Decorations, medals, and orders, D:75 Democracy (American democracy), D:104 Democratic Party, D:105 Dollar, D:249 Dominican Republic (History), D:261 Flag (National flags), F:212; picture on Girl Guides and Girl Scouts, G:171 Great Depression (The deepening depression in the U.S.A.), G:317 Guam (History and government), G:392 Haiti (History), H:18 Immigration (History), £36 with picture Independence Day, 1:54 Indian, American (The destruction of Indian America), 1:164; (Indians in

Americans today) 1:166

Industrial Revolution, 1:218

Iron and steel (Chief producers), 1:399 Korea (North-South relations), K:329 Latin America (Latin America and the United States), L:93 with pictures Manufacturing, M:167 Mexico (War with Texas and the United States), M:420 National debt, N:34 with diagram Nicaragua (The United States and Nicaragua). N:196 Novel. N:313 Painting (United States painting), P:73: (American painting 0) P:83 Panama Canal, P:124 Panama (Relations with the United States), P:120 Pearl Harbor Naval Base (Hawaii). P:235 with picture Peru (The growth of U.S. influence). P:316 Petroleum (The United States and Canada), P:338: (Petroleum industry) Philippines, History of the (The American period), P:408 Police, P:642 President of the United States, P:769 Primary election, P:776 Prohibition (Prohibition in the United States), P:797 with picture Puritans (Puritans in America), P:867 Railway (North America), R:104 Reconstruction, R:162 Republican Party, R:234 Roman Catholic Church (In the United States), R:344 Satellite, Artificial (History), S:98 Scouting, 5:182 Sculpture (American sculpture), S:214 with pictures Senate, 5:249 Slavery (Slavery in the United States), S:481; (The decline of slavery) S:482 with maps Space exploration, So:128 with pictures Statue of Liberty, So:304 with picture Telephone, T:109 Television, T:127 Textile, T:175 Thanksgiving Day, T:187 War of 1812, W:35 Western frontier life, W:185 with pic-Wine (Wines from the United States), W:274 World War I, W:372 United States, Armed services of the, U:222 United States, Congress of the See Congress of the United States United States, Government of the, U:228 with pictures Northern Marianas Islands, Commonwealth of the, N:276 United States, History of the, U:234 with pictures and maps the early and mid 's)I:165(Native See also list of Related Articles

United Test Ban Treaty

Disarmament (History), D:186 Unleaded petrol Upright piano Piano, P:483 with picture Unitization Petrol (Petrol additives), P:330 Petroleum (Oil-field conservation), Upsilon particle (physics), U:271 Unlimited presidency (government) Ur [ancient city], U:272 President, P:766 P:351 Unsaturated acids [chemistry] Abraham, A:15 Unity Woolley, Sir Leonard, W:313 Polyester, P:660 Design, D:134 World, History of the (The Tigris-Unsaturated polyesters (chemistry) Univalve Izoology Euphrates Valley), W:332 Mollusc, M:535 Polvester, P:660 Ur-Nammu [Sumerian king] Shell, S:343 with pictures; pictures on Unstable equilibrium (physics) Gravity, Centre of, G:310 Sculpture picture on: S:194 S:344 Unsuitable Job for a Woman, An Uracil Universal Heredity (How proteins are made), [book by [ames] Metaphysics (Universals and particu-H:171 lames, P. D., J:23 lars), M:379 Linto This Last [book by Ruskin] Uraemia (disorder), U:272 Socrates (The Socratic method), So:15 Nephritis, N:77 Ruskin, John, R:460 Universal constant Ural Mountains [Russia], U:272 Untouchables, The [play by Mamet] Science (Using logic), S:141 Russia, R:475 Mamet, David, M:124 Universal Copyright Convention Urai River, U:272 Copyright (International conventions), Untouchables (people) Uranium-235 Caste, C:233 CI-346 See U-235 Hinduism (Social divisions), H:210 Universal Declaration of Human Uranium [element], U:272 with pictures India (Religion), I:63 Rights and map Lintrammelled, The [poetry by Riddei]] See Human Rights, Universal Declara-See also list of Related Articles with Riddell, Elizabeth, R:272 tion of the Uranium article Unwin, Sir Raymond [British town Universal gas constant Australia (Mining), A:771 planner], U:271 Gas (Avogadro's law), G:59 Curie, Marie Sklodowska, Cl:501 Up From Slavery [book by Washington] Universal gas law Northern Territory (History), N:284 American literature (Nonfiction writ-Gas (Avogadro's law), G:59 Radiogeology, R:91 ers), A:316 Universal History | book by Ibn Khal-Radium (How radium forms and Upanishads (Indian sacred text), U:271 breaks down), R:93 Hinduism (Beliefs of Hinduism), History (Medieval times), H:225 U:235. U:2 H:209 Ibn Khaldun, I:3 Uranium borohydride India, Literature of (The Vedas). I:124 Universal joint Uranium (The spectroscopic methods), Sanskrit literature, S:75 Transmission (The drive shaft), T:345 U:275 Vedas, V:320 Universal language, U:265 Uranium dioxide Upas [tree], U:271 Esperanto, E:329 Uranium (Refining and processing ura-Updike, John [American writer], U:271 Language, L:53 nium ore), U:274 Universal life insurance with portrait Uranium hexafiuoride American literature (Fiction and other Insurance (Other kinds of life insur-Uranium (Ability to form compounds), prosel, A:320 ancel. 1:272 U:273; (Refining and processing Upland cotton Universal Negro improvement Assouranium ore) U:274 Cotton (Kinds of cotton), Ci:382 clation (UNIA) Uranium ore Upland cress Garvey, Marcus, G:47 Uranium (Refining and processing ura-Cress, Ci:422 Universal Postal Congress nium ore), U:274 Upper Atmosphere Research Satel-Postal Union, Universal (UPU), P:716 Uranium oxide Universal Postal Convention Uranium (Ability to form compounds), Space exploration (Back into space), Postal Union, Universal (UPU), P:716 So:160 Universal Postal Union (UPU) Uranium tetrafluoride Upper class Postal Union, Universal, P:716 Uranium (Ability to form compounds), City (The people), Ci:28 United Nations table on, U:169 U:273 Industrial Revolution (The middle and Universal Product Code Uranium trioxide upper classes), 1:216 See Bar coding Uranium (Ability to form compounds), Universal set Social class, So:2 Set theory, S:275 Upper Egypt Liranus [Greek and Roman mythology], Egypt, Ancient (Beginnings), E:128 Universal Time Coordinated (UTC) World, History of the (The Nile Valley), U:276 Chronometer, C:498 Titans, T:265 Time (Worldwide time zones), T:257 W:334 Uranus [planet], U:276 with pictures Upper house (government) Universals Herschel, Sir William, H:183 Parliament (The House of Lords), P:191 Metaphysics, M:379 Magnetism (The magnetism of other Universe, U:265 with picture astronomical bodies), M:57 Upper Palaeolithic Igeological period University, U:266 with pictures Space exploration (Probes to Jupiter Prehistoric people (Cultural develop-See also list of Related Articles and beyond), So:145 ment of modern human beings), United Kingdom, Educational systems Uranyl salt of the, U:97; (Going to university) Uranium (Ability to form compounds), Upper stock U:98 with pictures Clothing (The Renaissance), Ci:102 U:273 Unkei [Japanese sculptor] Urartu, Kingdom of iArmenial Upper Volta Sculpture (Japan), S:201 with picture Armenia (History), A:581 Unknown soldier, U:271

See Burkina Faso

Upper Walganga dam

Dam (Some important dams), D:14

Unlawfui homicide

Homicide, H:256

Urban conservation

Conservation, Cl:299

696 Urban geography Urban geography Geography (Divisions of geography), CVBB Urban II [pope], U:277 Crusades (How the Crusades began), Ci:462 Urban renewal project Conservation (Urban conservation), FI-299 Urban sociology Sociology (table), So:11 Urban VI [pope], U:277 Clement VII, Cl:73 Urbánek, Karel (Czech political leader) Czechoslovakia (The Velvet Revolution). Ci:526 Urdu [language] India, Languages of, 1:121 India, Languages of (Scripts and sounds in Indian languages), 1:123 Urdu poetry India, Literature of (The Islamic influencel. 1:126 Urea, U:277 Urea-formaldehyde resin glue Woodworking (Fastening), W:307 **Urea glue** Woodworking (Fastening), W:307 Ureter Human body (The urinary system), H:357 Urethra (anatomy) Human body (The urinary system), H:357 Kidney (How the kidneys produce urine), K:244 Prostate gland, P:811 Reproduction, Human (in males), R:226 Urey, Haroid Clayton [American chemisti, U:278 Deuterium (Discovery), D:143 Hydrogen (Properties), H:404 Life (Modern theories), L:249 Nobel Prizes (Chemistry), N:229 Urfaust (work by Goethe) Goethe, Johann Wolfgang von (Early years), G:228 Urlal (wild sheep) Jammu and Kashmir (Plants and ani-

mals), 1:26

Urinary system Human body, H:357; (Trans on three nsional picture)H:353 Urine, U:278

Urinary bladder

See Bladder

Bladder, B:382 Diabetes (Diabetes mellitus), D:151 Diuretic, D:204

Human body (The urinary system), H:357 Kidney, K:244

Urls, Leon [American author], U:278 Urn (vessell Cremation, Ci:421 Vase, V:315 Urological surgery

Surgery (Other specialized fields),

Uralogy Medicine (The specialities), M:311

Uropygial [anatomy] Goose, G:254

So:439

Ursa Major (astronomy), U:278 Ursa Minor [astronomy], U:278 Astronomy (Constellations), A:688 North Star, N:263

Ursulines (religious group), U:278 Religious life (The Roman Catholic Church), R:208

Urticaria Hives. H:233 Uruguay, U:279 with pictures and maps

See also list of Related Articles Aviation (Aircraft nationality marks).

Flag picture on, F:204 Montevideo, M:577 with picture Uruguay River, U:286 Urundt

U.S.A. See United States

Rwanda, R:506

U.S.A. [novel by Dos Passos] American literature (Realist fiction), A:318 Dos Passos, John, D:271

U.S.S.R. See Union of Soviet Socialist Repub-

Ustad Fateh Ali Khan (Pakistani classical singer]. U:286

Ustinov, Sir Peter [British actor], U:286 Film industry (Best performance by an actor in a supporting role), F:97

Usury [money], U:286 Utah [U.S.A.], U:286 with map Mormons (The Mormons in Utah),

Utamaro [Japanese printmaker], U:287

Japanese print (The master print artists), J:65

Uterus [anatomy], U:287 Baby (Before birth), B:4 with diagrams Endometriosis, E:244 Human body (The reproductive sys-

tem), H:358; diagram on H:353 Hysterectomy, H:418 Menstruation, M:349 with picture

Miscarriage, M:508 Pregnancy diagram on, P:742

Reproduction, Human (In females),

Test tube baby, T:161 with diagram Utica (ancient city), U:287 Utilitarianism, U:287

Philosophy (table), P:421; (Philosophy in the 1800's) P:426 Political science (Liberalism), P:654

Utopia [philosophy], U:288 Humanism (The arts), H:363 Science fiction (The 1900's), S:151

Utopia [book by More] More, Saint Thomas, M:604 Renaissance (Desiderius Erasmus and Saint Thomas More), R:220 Utpala dynasty

Jammu and Kashmir (History), J:27 Utrecht [Netherlands], U:288 Utrecht, Peace of, U:288 Acadia, A:18

Gibraltar (History), G:154 Succession wars (The War of the Spanish Succession), So:378

Utrecht, Treaty of Saint Christopher and Nevis (History). Utrecht, Peace of, U:288 Utrenja work by Pendereckil

Penderecki, Krzysztof, P:255 Utricle [anatomy]

Ear (The inner ear), E:8 with diagram; (The response to gravity) E:11

Utrillo, Maurice (French artist), U:288 with picture Uttar Pradesh [India], U:289

See also list of Related Articles

Uttlesford [England], U:292 Essex (Local government), E:332 **Uveal tract** [anatomy]

Eye, E:435; (Diseases of the uveal tract) E:442 Uvula (anatomy)

Palate, P:101 with diagram Uxbridge (England) Hillingdon, H:205 Uygurs [people] Asia (People), A:643

China (Nationalities), C:438 Turkestan (Chinese Turkestan), T:453 Uzbek

Uzbekistan (People), U:293 Uzbek language Uzbekistan (People), U:293

Uzbekistan, U:292 Commonwealth of Independent States, Ch:222

Flag picture on, F:207 Uzbeks [people] Uzbekistan (People), U:293

V [letter], V:295 V-1 (weapon) Guided missile (The first guided missiles), G:410 World War II (The air war), W:391

V-2 [weapon] Guided missile (The first guided missiles), G:410

Rocket (Rockets of the early 1900's),

R:322 Space exploration (The first space

rockets), So:140 with picture World War II (The air war), W:391

V-E Day, V:296 V-J Day, V:296 Vaal (river, South Africal, V:296 North West (Rivers), N:264 South Africa (Rivers), So:63

Vaal River [South Africa]

Heart, H:99, H:102 with pictures: (The

Free State, F:431 Jammu and Kashmir (Land features). Vaca, Álvar Núñez Cabeza de See Cabeza de Vaca, Álvar Núñez Vaccination Bacteriology (Controlling bacterial diseases), B:22 Drug (Vaccines), D:312 immune system (Active immunity), I:41 Immunization (Active immunization), Influenza (Prevention and treatment). 1:232 jenner, Edward, J:83 Medicine (Prevention), M:307 Pollomyelitis (Prevention of pollomyelitisl. P:646 Virus (Virus diseases in human beings). V:406: (How viruses are used) V:408 Vaccine AIDS (Prevention), A:180 Drug (Vaccines), D:312 See also Vaccination Vacuoles [biology] Cell (The cytoplasm), C:295 Vacuum, V:296 with diagram See also Thermos flask; Vacuum cleaner; Valve Vacuum cleaner, V:297 with pictures Vacuum flask Thermos flask, T:217 with picture Vacuum gauge Gauge, G:63 Vacuum pump See Pump Vacuum tube, V:297 with pictures Communication (The beginning of the electronic age), Ci:233 Crookes, Sir William, Ci:452 De Forest, Lee, D:84 Vacuum tube Electronics (Electron tubes), E:187 Electronics (Terms used in electronics), E:185 Vadodara Gujarat (Places to visit), G:422 Vaduz (Liechtenstein), V:299 Vagabond, The [book by Colette] Colette, Ci:162 Vagina [anatomy], V:299 Human body (The reproductive system), H:358 Reproduction, Human (In females), R:225 Vaginitis (disorder), V:299 Vagrancy, V:330 Valsheshika [philosophy] Hinduism (The six schools of philosophy), H:210 India, Philosophy of, £133 Vaisya [sociology] Caste, C:233 Hinduism (Social divisions), H:210 Valadian, Margaret [Aboriginal social

worker], V:330 Vale of Berkeley (England)

Vale of Kashmir

Gloucestershire (Land regions), F:213

Vale of Glamorgan [Wales], V:330

1:26: (History) 1:27 work of the heart) H:102: (Block-Vale of White Horse [England], V:330 age of the blood flow) H:108 Vale Royal [England], V:330 Mitral valve prolapse, M:521 Valence Valve [mechanics], V:304 with diagram See Valency Petrol engine (Valve arrangement), Valencia [Spain], V:330 P:332; (Parts of a reciprocating Valency (chemistry), V:330 petrol engine) P:332 Atom (Chemical behaviour), A:726 Safety valve, S:16 with diagram Vacuum tube, V:297; (Kinds of vacuum Bond (chemistry), B:444 tubes) V:298 Chemistry (Development of organic chemistry), C:371 Valve [zoology] Clam, Cl:50 Faraday, Michael, F:26 Ingold, Sir Christopher Kelk, 1:233 Valvular disease Heart (Other heart disorders), H:108 Lewis, Gilbert, N:198 Vampire bat, V:305 with picture Valens [Roman emperor], V:300 Valentine, Saint, V:301 Vampire, V:305 Valentine's Day, V:301 with picture Van... Valentinian I [Roman emperor], V:302 Names beginning with Van are al-Valentinian III [Roman emperor], V:302 phabetized either as single words Valentino, Rudolph (American film or under their key word Van Allen belts [astronomy], V:305 star], V:302 with portrait Earth (The earth's magnetism), E:21 Valera, Eamon de Magnetic storm, M:53 See De Valera, Eamon Magnetism (The magnetism of the Valerian [plant], V:302 Valéry, Paul [French poet], V:303 earth), M:57 Space exploration (The beginning of Vaihalla (Scandinavian mythology), space). So:130 V:302 Van Allen, James Alfred (American Validity physicistl, V:305 Logic, L:361 Van Buren, Martin (U.S. president), Testing (Standardized tests), T:163 V:306 Valkyrie, The opera by Wagner United States, History of the (Politics Wagner, Richard (Later career), W:3 after Jackson), U:248 Valkyrie (Scandinavian mythology), Van de Graaff generator, V:308 with Valle, José Cecilio Del [Central Ameripicture can patriot, V:302 Induction, Electric, I:205 Van de Graaff, Robert J. American Valletta [Malta], V:302 with picture physicist Malta, M:121 Van de Graaff generator, V:308 Valley Between, The [book by Thiele] Van Den Bosch, Johannes Igovernor-Thiele, Colin, T:219 general of Netherlands East Indies), Valley, V:303 V:308 See also list of Related Articles Van der Bijl, Hendrik Johannes, Hanging valley, H:54 Ocean (The land at the bottom of the V:308 Van der Goes, Hugo [Flemish painter], sea), O:395 with map V:309 with picture Valley Forge, Battle of Van der Weyden, Rogier (Flemish American Revolution, A:327 painterl, V:309 Valley glacier Painting (The Flemish style), P:57 with Glacier, G:174 with picture picture Valley of Fear, The novel by Doylel Van Diemen, Anthony Dutch colonial Doyle, Sir Arthur Conan, D:277 administratorl, V:309 Valley of the Kings [Egypt], V:303 Van Diemen's Land Valmy, Battle of Australia, History of, A:802 Army (table: Famous land battles), Bushrangers, B:671 Convicts in Australia (Transportation), Valois [French history], V:303 Ci:321; (Convict life) Ci:323 Valparaíso [Chile], V:303 Squatters in Australia, So:232 Valse, La [music by Ravel] Tasmania (History), T:61 Ravel, Maurice, R:146 Transportation [punishment], T:362 Value added Van Doren, Carl American biogra-Input-output analysis, I:239 pherl, V:309 Value-added tax (VAT), V:304 Van Doren, Mark (American poet), Value (colour) Colour (The Munsell colour system), Van Druten, John William (British play-Ci:200 wrightl, V:310 Value [economics], V:304

Van Dyck, Sir Anthony [Flemish

painterl, V:310 with picture

Money (The value of money), M:551

Valve [anatomy]

Johnson, Samuel, 1:134

Vanua Levu [island]

[music by Walton] Fiji, F:75; (Land regions) F:77 Rubens, Peter Paul, R:440 Vanuatu, V:313 with picture and map Walton, Sir William, W:29 Van Evck, Ian (Flemish painter), V:310 Flag picture on, F:207 Varicella [virus] with picture Chickenpox, C:400 Vaporization Painting (The Flemish style), P:57 with Distillation, D:202 Varicose ulcer picture Ulcer, U:15 Van Gogh, Vincent [Dutch painter], Evaporation, E:403 V:311 with picture Fallout (How fallout is produced), F:17 Varicose vein, V:315 Vein, V:324 Painting (Postimpressionism), P:78 Refrigeration (Effects of heat transfer), Van Lawick-Goodali, Jane R:184 Varietal See Goodali, lane Vapour, V:314 Wine (Where wine comes from), Van Leeuwenhoek, Anton Vapour [physics], V:314 W:273 Boiling point, B:423 Variey, Fred [Canadian painter] See Leeuwenhoek, Anton van Evaporation, E:403 Group of Seven, G:385 Van Leyden, Lucas (Dutch artist), V:312 Van Plettenberg, Joachim [colonial Steam. So:307 Varna-ashrama-dharma Hinduism (Beliefs of Hinduism), H:209 governor) Water, W:82 South Africa, History of (White expan-Vapour barrier Varna (Hinduism) Insulation (Insulation for heat flow Manu. M:166 sion), So:78 control). I:269 Varnish, V:315 Van Rensselaer, Killaen [Dutch colo-Airbrush, A:205 nizer], V:312 Vapour lamp, V:314 Van Riebeeck, Jan [Dutch colonial ad-Vapour lock, V:314 Lacquer, L:9 Painting (Oil paint), P:44 ministratori, V:312 Vapour recovery unit Petroleum (Fractional distillation), South Africa, History of (Settlement by Resin, R:238 the Dutch), So:78 with picture P:348 Shellac, S:349 South Africa (History of conservation), Vapour trail Vas deferens 10:64 Contrail, Ci:317 Reproduction, Human (In males), Van Winkle, Rip Vaguero of the Brush Country, A R-226 Vasa, Gustavus (Swedish noble) See Rip Van Winkle (book by Dobie) Sweden (The beginnings of modern Van Wouw, Anton [South African Dobie, J. Frank, D:219 sculptori, V:314 Varèse, Edgard (French composer), Sweden), So:473 Vanadium (element), V:305 Vasco Da Gama Vanadium oxytrichloride Varanasi [India], V:314 See Da Gama, vasco Vanadium, V:305 Uttar Pradesh (Places to visit), U:291 Vascular plant Plant, P:570 with pictures Vanadium pentoxide Vardar River Vanadium, V:305 Macedonia (Land and climate), M:9 Vascular ring Vanbrugh, Sir John (English play-Potato (The potato plant), P:719 Vardon Trophy wrightl, V:306 Vardon, Harry, V:314 Vase, V:315 Vancouver [Canada], V:306 with picture Vardon, Harry British golferl, V:314 Vasectomy Vancouver Island (Canadal, V:307 Birth control (Methods of birth con-Varennes, Pierre Gaultier de Vancouver, George (British explorer). See La Vérendrye, Sieur de trol), B:367 V:307 with portrait Surgery (Some common surgical oper-Varenyky [food] Vandalism, V:307 Ukraine (Food and drink), U:8 ations), So:438 Vandals (people), V:308 Vargas Liosa, Mario [Peruvian novelist], Vaseline Vanderbiit, Cornelius (American busi-V:314 Petrolatum, P:334 nessmanl, V:308 Variable Vasodilator Vanessa (book by Waipole) Set theory (In algebra), S:276 Drug, D:312 Walpole, Sir Hugh Seymour, W:27 Variable depth sonar Heart (Heart failure), H:110 Vanguard Sonar (History), So:40 Vasodilator nerves Space exploration (Launch vehicles). Variable life insurance See Blushing So:132 with picture Insurance (Main kinds of life insur-Vasopressin Diabetes (Diabetes insipidus), D:152 Vanguard [satellite] ance). I:272 Satellite, Artificial (Important satellites), Hormone (Blood composition hor-Variable star [astronomy] S:96; (History) S:98 Hogg, Helen Sawyer, H:242 mones), H:278 Space exploration (The space race be-Shapley, Harlow, H:331 Hypothalamus, H:417 gins), So:141 Star, So:285; (Star terms) So:280 Pituitary gland, P:528 Vásquez de Coronado, Francisco Vanilla (plant), V:312 with pictures Variable velocity See Coronado, Francisco Vásquez de Vanilla extract Velocity (Types of velocity), V:325 Vanilla, V:312 Variance Vassal Vanilla orchid Statistics (Probability), So:303 Feudalism, F:62 Middle Ages (The Carolingian Empire), Orchid (Kinds of orchids), 0:489 Variation (music), V:315 M:447; (Feudalism) M:447 Vanishing point Variation form World, History of the (Medieval Perspective, P:301 with picture Classical music. Ck58 Vanishing point [drawing technique] Variation Number 7: Full Moon Isculp-Europe), W:342 Leonardo da Vinci (Paintings), L:180 ture by Lippold) Vat dve Vanity Fair [book by Thackeray] Dye (Kinds of dyes), D:362 Sculpture (Sculpture as artistic expres-Thackeray, William Makepeace, T:177 sion), S:189 picture on S:187 Indigo, 1:179 Vanity of Human Wishes, The work Variations on a Theme | play by Ratti-Vatican Archive by Johnson Vatican City, V:316

Rattigan, Sir Terence, R:144

Variations on a Theme by Hindemith

Vatican

Michelangelo, M:436

Vatican City, V:316 with pictures Vedas [Indian sacred texts], V:320 PWV (Land), P:870 Flag picture on, F:209 Brahman, B:508 Zimbabwe (Land regions), Z:495 See also Roman Catholic Church Hinduism (Beliefs of Hinduism), H:209 Veld [South Africa] Panal States, P:133 India, Literature of (The Vedas), 1:124 Gauteno (Land), G:64 Pope, P:673; (The powers of the pope) Mithra, M:519 Veliger P:673; (The 1700's and 1800's) Philosophy (Oriental philosophy). Clam. Ci:50 P:678 P:422 Oyster (The life of an oyster), 0:540 Rome (The city today), R:364 Vega [astronomy], V:320 Vellore [India] Swiss Guard, So:490 North Star, N:263 Tamil Nadu (Places to visit), T:22 Vatican Council I. V:318 Vega Real Vellum Roman Catholic Church, R:343 Dominican Republic (Land and cli-Book (The development of printed Vatican Council II, V:318 mate). D:259 with picture books). B:456 Religious life (The Roman Catholic Vega, Lope de (Spanish playwright), Illustration (The first illustrations), 1:32 Church), R:208 V:320 Parchment, P:172 Roman Catholic Church (The church Drama (Secular drama). D:293 Velocity, V:325 Spanish literature (The 1500's). So:194: Falling bodies, Law of, F:15 today), R:344 Vatican Library, V:319 (The 1600's) So:194 Force, F:337 Motion, M:646 Library picture on, L:232 Vegan Relativity (Special theory of relativity). Vegetarianism, V:324 Vatican City, V:316 Vegetable, V:321 with pictures R:191 Vatican Museums Satellite, Artificial (Satellite orbits). Vatican City, V:316 See also list of Related Articles Vatican Palace Vegetable garden S:95 Space exploration (Space exploration Pope, P:673 Gardening, G:34 with pictures; (Kinds terms), So:130; (Overcoming grav-Vaudeville [entertainment], V:319 of outdoor gardens) G:35 Vegetable ivory ity) So:133 See also Music hall Velvet ant Vaughan Williams, Raiph (British com-See Ivory paim Vegetable oil, V:323 Wasp, W:63 poserl, V:319 Velvet, V:326 Margarine, M:203 Vaughan, Henry (English poetl, V:319 Velvet leaf, V:326 with picture Oil. 0:419 Metaphysical poets, M:378 Velvet Revolution, The [Czech history] Vault [architecture], V:320 with picture Olive oil, 0:430 Czech Republic, Cl:521 Soybean (Soy oil), So:126 Architecture (table), A:515 with pic-Velvet rugs and carpets Vegetable wax tures; (Roman architecture) A:522 Wax, W:106 Rugs and carpets (Kinds of rugs and with picture carpets), R:449; (Weaving) R:450 Vegetarianism, V:324 Rome, Ancient (Architecture and engi-Velvetbean caterpillar neering), R:376 Vegetation Soybean (Diseases and pests), So:126 Conservation (Soil conservation), Vaux, James Hardy (Australian writer) Venda [people] Ci:293: (Conservation of grazing Australia, Literature of (Early prose), South Africa (People), So: 58 lands) Ci:296 with picture Vendace See also Desert; Forest; Grassland; Vauxhall Gardens (work by Rowland-Whitefish, W:237 Plant Vendetta, V:326 Rowlandson, Thomas, R:415 Vegetative organ Vending machine, V:326 Vavau Grass (The grass plant), G:301 Slot machine, S:488 Vegetative propagation Tonga (Land), **T:294** Veneer Reproduction (Through asexual repro-See also Furniture; Mahogany duction), R:224 See Videotape recorder [wood].. V:326 Vehicle [chemistry] Veneer [dentistry] Ink, 1:234 See Sexually transmitted disease Teeth (Crowning a tooth), T:94 Veadar (month) Paint, P:23 Veneer products Calendar (The Hebrew Calendar), C:34 Vein [anatomy], V:324 Forest products, F:354 Veal [food], V:320 See also list of Related Articles Venera (space probe) Cattle (Dual-purpose cattle), C:275 Anglography, A:366 with diagram Space exploration (Probes to Venus), Blood (What blood does in the body), Veblen, Thorstein Bunde (American So:144 B:394 with diagrams economisti, V:320 Venus (Flights to Venus), V:342 Circulatory system (The blood vessels), American literature (Nonfiction writ-Venereal disease Ci:7 with picture ers), A:316 See Sexually transmitted disease Vecellio, Tiziano Human body (The blood vessels), Venetian blind, V:326 See Titian H:356 Venetian Life [book by Howells] Vector Vein [leaf] Howells, William Dean, H:335 Force (Calculating resultant force), Leaf (The parts of a leaf), L:128 Venetians [people] F:337 Veitchiana Crusades (The Fourth Crusade), Ci:464 Gene therapy, G:75 Gardenia, G:33 Venice (The people), V:336 Velázquez, Diego [Spanish painter], Heredity (The era of genetic engineer-Venezuela, V:327 with pictures and V:324 with portrait and picture ing), H:174 Velocity, V:325 Velázquez, Diego [Spanish painter] Vedanta See also list of Related Articles Painting (Other baroque masters), P:62 Aviation (Aircraft nationality marks), Hinduism (The six schools of philosowith picture A:081 Veld, V:325 phy), H:210 India, Philosophy of, 1:135 Cape Province (Land), C:137 Caracas, C:184 Flag picture on, F:204

Prairie, P:737

Upanishads, U:271

tween the planets) So:130:

to comets) So:145

Venus [Roman mythology], V:339

Transit, T:341

(Probes to Venus) So:144; (Probes

See also Aphrodite Vermilion [pigment], V:346 Venice [Italy], V:335 with pictures and See also Cinnabar Venus and Adonis poem by Shake-Vermont [U.S.A.], V:346 with picture and spearel See also list of Related Articles Shakespeare, William, S:322 map Doge. D:241 Vernal equinox Gondola, G:251 with picture Venus de Milo, V:343 Equinox, E:316 Paris picture on, P:181 Glass (The Middle Ages), G:196 Time (Measuring time by the stars). Venus'-flytrap [plant], V:343 with pic-Painting (Venetian painting), P:60 with Verne, Jules [French novelist], V:347 Venus'-girdle (sea animal) Renaissance (The Italian Renaissance), with portrait R:215 with map Ctenophore, Ci:471 Space exploration picture on, So:140 Saint Mark, Basilica of, S:40 Venus of Willendorf Vernier [instrument], V:347 Sculpture (Prehistoric sculpture), \$:194 Tourism picture on, T:312 Vernier, Pierre [French mathematician] with picture Yugoslavia (History), Y:473 Venice from the Plazzetta looking to-Vernier, V:347 Venus with a Mirror painting by Ve-Veronese, Paolo [Italian painter], V:348 ward Codussi lázouez] Velázquez, Diego, V:324 Veronica, Saint, V:348 [painting by Pritchett]: Tourism picture Venusberg (book by Powell) Verrazano, Giovanni da Italian navigaon, T:312 torl. V:348 Venice Preserv'd [play by Otway] Powell, Anthony, P:731 Venuti, joe [American jazz musician] New York City (Exploration), N:150 Drama, D:295 Verrocchio, Andrea del (Italian sculp-Jazz (The 1920's), j:75 Otway, Thomas, 0:521 Veracruz (Mexicol, V:343 tori. V:348 Ventson Verb. V:343 Sculpture (Early Renaissance), S:211 See Deer Venizelos, Eleutherios (Greek politi-Versailles [France], V:348 See also list of Related Articles with Fountain, F:375 with picture the Verb article cian], V:337 France (Museums and libraries), F:401 Greece (George I), G:342 Conjugation, Ci:286 Sculpture (European sculpture), \$:213 Venkataraman, Ramaswami [Indian Italian language, I:444 Versailles, Treaty of [1783] political leader), V:337 Person, P:299 Montserrat (History), M:581 Venn diagram Spanish language, So:192 Saint Christopher and Nevis (History), Set theory, S:274 with diagrams Weish language, W:149 Venom (poison), V:338 Versailles, Treaty of[1919], V:349 Ventilation, V:338 See Gerund; Infinitive; Participle Hitler, Adolf (The road to war), H:231 Air conditioning (Circulating the air), Verbal tests Intelligence quotient (Problems of in-Polish Corridor, P:647 Ventilator imedicinel, V:338 telligence testing), 1:277 Reichswehr, R:189 Iron lung, 1:403 with picture Rhine River (The Rhine in history), Verbena (plant), V:344 with picture Ventricle Verdi, Giuseppe Italian composerl, D-252 Artificial heart, A:610 with diagram V:343 Vertebra (anatomy) Heart pictures on, H:100: (Chambers) See also Boito, Arrigo Cartilage, C:216 Mammal (The axial skeleton), M:127 H:102; (Heart terms) H:102 Opera, 0:464 Ventricular fibrillation Spine, So:229 with diagram Opera (Rigoletto), 0:472 Heart (Diagnosis and treatment), H:106 Opera (Traviata, La), 0:473; picture on Vertebral column Ventricular septal defect Rib, R:259 with picture 0:474 Heart (Abnormal openings in the Opera (Trovatore, III, 0:474 Vertebrate, V:350 Animal (Kinds of animals), A:380; (The heart), H:108 Verdun, Battles of, V:345 Ventriloguism, V:338 bodies of animals)A:396 World War I, W:368 Hormone (Hormones of other ani-Ventris, Michael George Francis (Brit-Verdun, Treaty of, V:345 ish architect), V:338 Vereeniging (South Africal, V:345) ma(s), H:279 Prehistoric animal (Early forms of ani-Venturi meter Gauteng, G:64 Water meter, W:87 mal life), P:744 Vereeniging, Treaty of [1902] Venturi, Robert [American architect]. Transvaal (History), T:364 Rib, R:259 V:339 with picture Vérendrye, Sieur de la Vertical integration Victoria (History), V:364 Industry (Structure), 1:224 See La Vérendrye, Sieur de Venule Verga, Giovanni Iltalian novelisti, V:345 Verticillium wilt Tomato (Growing, harvesting, and pro-Vein, V:324 Vergil Venus (planet), V:339 with pictures See Virgil cessing), T:292 Astronomy (The solar system), A:689 Verguide Draeck [ship] Vertigo Evening Star, E:404 Gilt Dragon, G:161 Dizziness. D:215 Lucifer, L:411 **Verulamium** (Roman town) Verifiability criterion of meaning Magnetism (The magnetism of other Saint Albans, S:28 Positivism (Logical positivism), P:709 astronomical bodies), M:57 Verismo Vervain Planet, P:533 with pictures Opera (table), 0:457; (Verismo opera) Verbena, V:344 Radar (In scientific research), R:57 with 0:465 Vervet Mammal picture on, M:135 picture Verlaine, Paul [French poet], V:346 Verwoerd, Hendrik |South African po-Space exploration, So:128; (Space be-See also Rimbaud, Arthur

Vermeer, Jan [Dutch painter], V:346

with picture

Vermiculite [mineral], V:346

Vermicelli

See Pasta

litical leaderl, V:350

apartheid), So:85

Very high frequency waves, V:350

Very Large Array (VLA) [astronomy]

South Africa, History of Opposition to

Observatory (Radio observatories). 0:381

Radio telescope picture on, R:89 Telescope (Types of radio telescope),

T:115 with picture

Very Large Telescope (VLT)

Telescope (Recent developments in telescopes), T:116

Very Long Baseline Array Telescope [astronomy]

National Radio Astronomy Observatory, N:43

Radio telescope picture on, R:89

Very Long Baseline Array (VLBA) [astronomyl

Telescope (Types of radio telescopes). T:115

Vesalius, Andreas (Italian anatomist). V:350

Anatomy, A:350

Biology (The Renaissance), B:306 Drug (Scientific advances), D:318

Heart (Discovery of circulation), H:111 Medicine (The Renaissance), M:315 Science (The rebirth of science), S:146

Zoology (History), Z:506

Vesicles [biology] Cell (The cytoplasm), C:295

Vespasian [Roman emperor], V:350

Titus, T:267

Vespers Imusic by Monteverdil Monteverdi, Claudio, M:577

Vespucci, Amerigo (Italian explorer), V:351 with portrait and map

Exploration (Exploring the New World), E:421 with map; (table)

United States, History of the (Columbus), U:237

Vessel, Blood

See Artery; Blood; Vein Vesta [Roman mythology], V:351

Vestibular system

Motion sickness, M:648 Space exploration (Microgravity),

Sq:135

Vestment

Pope (Titles, clothing, and symbols), P:674

Vesuvius, V:351 with picture Disaster (Natural disasters), D:187 Pompeil, P:664 with picture

Volcano (Composite volcanoes), V:418; (table) V:419

Vetch [plant], V:352 with picture

Veteran car

Vintage and veteran cars, V:396 with picture

Veterinarian

See Veterinary medicine

Veterinary medicine, V:352 with pic-

Pet (Taking care of pets), P:323 Veto, V:354

Plebeians, P:595

United Nations (Voting), U:166

Vexillology

Flag, F:199; (Flag terms) F:213

VHF waves

See Very high frequency waves

Via Appia

See Appian Way

Roman roads, R:346

Via del Corso

Rome (The city today), R:364

Via Dolorosa

Jerusalem (The Church of the Holy Sepulchrel, 1:92

Vladuct, V:354

Vibraphone Imusical instrumentl. V:354

lazz (Other instruments). 1:74: picture on 1:76

Vibration, V:354 Sound, So:46

Vibrato

Vibraphone, V:354

Vibroseis

Petroleum (Seismograph), P:342 with picture

Vibrosels truck

Gas (Exploring for gas), G:51

Viburnum [tree], V:354 with picture Vicar of Wakefield, The work by

Goldsmith)

Goldsmith, Oliver, G:243

Vice president (title), V:355

Vicentians [religion]

Vincent de Paul, Saint, V:395

Viceroy [title], V:355 Vichy [France], V:355

Victor Emmanuel I (king of Sardinial,

Victor Emmanuel II (king of Italy), V:355

Rome (The 1800's), R:369

Victor Emmanuel III (king of Italy),

Victor Harbor [Australia], V:355

Victor Talking Machine Company Recording industry (History), R:168

Victoria [Australia], V:355 with pictures and map

See also list of Related Articles Squatters in Australia, So:252

Victoria (Canadal, V:367 with picture

Victoria (Hong Kongl, V:367

Victoria iqueen of Englandi, V:355 with picture

See also list of Related Articles

Edward VII. E:94

India, History of (High tide of imperialism), I:115

Royal Family of the United Kingdom (History), R:425

United Kingdom, History of the (Years of progress), U:145

Victoria, Lake

See Lake Victoria

Victoria Cross [military decoration], V:367

Victoria Desert

See Great Victoria Desert

Victoria Falls [Zambia-Zimbabwe], V:367

Victoria Peak Hong Kong (The land), H:269

Victoria Land [Antarctic], V:367

Zambezi River, Z:487 with map

Victoria River basin

Northern Territory (Land), N:279 with picture

Victoria Tower

Westminster, Palace of, W:195

Victorian Age

Poetry (Victorian poetry), P:616 United Kingdom, History of the (Years

of progress), U:145

Victoria, V:355

Victorian period

Poetry (Victorian poetry), P:616 Victory at Sea [music by Rodgers]

Rodgers, Richard, R:331

Victory of Paeonius [Greek statue] Olympia, 0:431

Victory [ship]

Nelson, Horatio (Victory at Trafalgar), N:72

Portsmouth, P:697

Vicuña [animal], V:367 with picture Animal picture on, A:382

Vidal, Mary Australian writerl

Australia, Literature of (The development of the novel), A:830

Vidal, Gore [American writer], V:368

Video camera. V:368 with picture

Camera (Film camera), C:58

Photography (Making home movies), P:458 with pictures

Video game

See Electronic game

Video paint box

Television (Character generators and video paint boxes), T:131

Videodisc, V:369 with diagram

Laser (Recording, storing, and transmitting information), L:70

Optical disc, 0:479

Television (Video entertainment systems), T:121

Videotape recorder, V:369 with pictures

Television (Video entertainment systems), T:121

Videodisc, V:369

Videsh Sanchar Nigam

Telephone (India), T:108

Vidiqueira, Count of Da Gama, Vasco (Later life), D:4

Vielle [musical instrument]

Violin picture on, V:399 Vienna [Austria], V:372 with pictures Austria, A:856 with pictures

Vienna Circle

Positivism (Logical positivism), P:709

Vienna State Opera House Austria picture on, A:860

Vienna, Congress of, V:373

Ambassador, A:301

Austria (Metternich and revolution), A:866

Congress, Ci:282

Germany, G:133

Italy (The French Revolution and Napo-

Vlewfinder

Camera (How a camera works), C:56

Photography (Taking photographs),

Villon, François [French poet], V:394 P-444 leon), 1:468 Viinius (Lithuania), V:394 Video camera (How video cameras World, History of the (The rise of de-Vimy Ridge, Battle of, V:394 work), V:368 mocracy and nationalism), W:353 Vimy [aeroplane] Views on Life of the Tomcat Murr Vientiane [Laos], V:373 Alcock and Brown, A:236 [book by Hoffmann] Viegues [island] Vina (musical instrument) Puerto Rico, P:846 Hoffmann, Ernst Theodor Amadeus, India. Dance and music of (Musical in-Viet Cona H:240 struments), I:94 Vigee -Lebrun, Elisabeth [French por-Communism picture on, Ci:243 Vina del Mar Johnson, Lyndon Baines (President, trait painterl, V:385 (Chile), V:395 1963-1964), 1:133 Vigilante, V:385 Vigny, Alfred de [French author], V:385 Vincent de Paul, Saint, V:395 Vietnam (The Vietnam War begins), Vigoro (game), V:385 Roman Catholic Church (Catholic revi-Visit Vijayanagar Empire val in France). R:342 Vietnam War, V:383 Vietminh Karnataka (History), K:199 Sisters of Charity, S:457 Vincent of Beauvais Dien Bien Phu, Battle of, D:168 Vljavanagar Empire (Indian history), Encyclopedia (From the 1200's to the Vietnam (The Indochina War), V:380 V:385 with picture Viking [rocket] 1600's), E:240 Vietnam, V:374 with pictures and map Space exploration (The first space Vincentians [religion] See also list of Related Articles Vincent de Paul, Saint,, V:395 Aviation (Aircraft nationality marks), rockets), So:140 Vincent's infection Viking long ship A:881 Warship picture on, W:44 Mouth. M:678 Cambodia (History), C:46 Trench mouth, T:393 Dien Bien Phu, Battle of, D:168 Viking [space probe] Flag picture on, F:207 Jet Propulsion Laboratory, J:107 Vinci, Leonardo da See Leonardo Da Vinci Geneva Accords, G:82 Mars (Flights to Mars), M:223 Vindication of the Rights of Woman, Hanol, H:55 Space exploration (Probes to Mars), A (book by Wollstonecraft) Ho Chi Minh City, H:233 So:144 with picture Indochina (The Viets), I:180; (A new Vikings (people), V:387 with pictures Feminism, F:49 Wollstonecraft, Mary, W:290 kingdom) I:181 and map Women's movement (Forces of Vietnam War, V:383 with pictures and See also list of Related Articles change), W:294 map Ireland, History of (The Vikings in Ire-Vindolanda (Roman settlement) Amnesty, A:337 land), 1:368 Cambodia (History), C:46 Lapland (History), L:63 Roman walls, R:347 Civil disobedience (Is civil disobedi-Orkney (History), O:504 Vine (plant), V:395 See also list of Related Articles ence ever justified?), Ci:40 United States, History of the, U:236 Communism (Expansion in Southeast Vile Bodies [book by Waugh] Vine cectus Asia), Cl:242 with picture Waugh, Evelyn, W:103 See Ocotillo Ho Chi Minh, H:233 Vine, F. J. (British geophysicist) Villa-Lobos, Heitor (Brazilian com-International relations, 1:295 poser], V:394 Continental drift, Cl:316 Johnson, Lyndon Baines, J:133 Villa Rotonda Vinegar, V:395 Pacifism, P:17 Architecture (Later Renaissance archi-Acetic acid, A:22 Rock music (Growing social signifitecture), A:527 with picture Antiseptic (History), A:464 cance), R:313 Villa, Pancho [Mexican bandit chieftain], Cider, Cl:3 Vinegar eel [roundworm], V:396 Vietnam, V:381 V:392 with picture War crime, W:35 Mexico (The Constitution of 1917), Vinegarroon War Powers Resolution, W:37 MI421 Whip scorpion, W:228 View camera Village, V:393 with picture Vineland Camera, C:58 with picture India (Village life), 1:62 See Vinland View of Delft, The painting by Ver-Mexico (The growth of villages), M:417 Viner, Charles Blackstone, Sir William, B:381 meerl Village Hinduism Vermeer, Jan, V:346 Hinduism, H:212 Vineyard View of Haarlem [painting by Ruisdael] Village Soothsayer, The lwork by Grape, G:296 with picture Ruisdael, Jacob van, R:453 Rousseau) Vinland, V:396 View of the English Stage, A lwork by Ericson, Leif, E:318 Rousseau, Jean-Jacques (Later life), Exploration (The Vikings), E:419; (table) Hazlittl R:413 Hazlitt, William, H:92 Village weaver Vikings (The Norwegian Vikings), View of the Great Conflagration lith-Weaverbird, W:123 ograph by Currier] Villain Currier, Nathantel, Ci:503 See Villein Vintage Wine (Harvesting the grapes), W:274 View of the State of Europe During Villein, V:394 the Middle Ages, A lbook by Hal-Villi (anatomy) Vintage car Vintage and veteran cars, V:396 with Alimentary canal, A:269 Hallam, Henry, H:22 Blood (Transporting nutrients and picture Vintage Murder (book by Marsh) View of Toledo [painting by El Greco] waste), B:396 Marsh, Dame Ngaio, M:224 Greco, El picture on, G:331 Human body picture on, H:355 Viewdata Vinyl, V:396 Intestine (The small intestine), I:298 Television, T:121 Wallpaper, W:26 Placenta, P:531

Villiers, Alan [Australian sailor], V:394

See Buckingham, Duke of

Villiers, George

Vinyl chloride

Vinyi paint

Vinyl (Characteristics), V:396

Painting (Synthetic resins), P:45 with United States, History of the, U:238 Virginia Company Prism. P:788 with picture picture viol (musical instrument). V:396 lamestown, 1:24 Visigoths [people] Dowland, John, D:276 Virginia creeper [plant], V:404 with Goths, G:264 Viola (musical instrument), V:397 with picture Portugal, P:705 See also Ivy Theodosius I. T:213 picture Music (Bowed stringed instruments), Virginibus Puerisque and Other Pa-Valens, V:300 pers (book by Stevenson) Vision M:727 with picture Stevenson, Robert Louis (Stevenson's Animal, A:400 with picture Viola d'amore (musical instrument) Bird (Sight), 8:352 with diagram Violin picture on, V:399 writings), So:322 Blind spot. B:387 Virgo (astrology), V:404 with picture Violence Colour blindness, Cl:202 with pictures Child (Serving as models of appropri-Virgo Cluster (astronomy) Colour (How we see colour), Cl:193 ate behaviour), C:408 Astronomy (Galaxies and quasars), with pictures Television (Effects on learning), T:128 A:691 Compound eye, Ci:251 with diagrams Viroid, V:405 Terrorism, T:159 Contact lens, Cl:313 Virtual image loptics! Violet (colour) Colour (The relation between colour Lens (Conveying lenses), L:174 with di-Dog (Senses), D:224 Glasses, G:202 with pictures and light), Ci:192 with picture Magnifying glass, M:60 Hawk picture on, H:84 Violet [plant], V:397 with picture Insect (Sight), I:252 with picture Violin [musical instrument], V:397 with Mirror (Plane mirrors), M:507 See also Eye Virtual reality, V:405 with picture pictures Mammal (Sight), M:129 Virtuoso concerto See also list of Related Articles Optical illusion, 0:479 Music (Bowed stringed instruments), Concerto, Cl:272 Optometry, 0:480 Virus, V:406 M:727 with picture Perception (Factors affecting percep-See also list of Related Articles Viper, V:400 with picture tion), P:277 AIDS (Cause), A:179 See also list of Related Articles Primate (Physical characteristics), Animal, A:376 Snake, S:516 P:777 Snakebite (Snake poisons), S:518 Cancer, C:121 Senses, **S:255** Viper's bugloss (plant), V:400 with pic-Cell. C:303 Vision of Piers Plowman (poem by Disease, D:189; (Viral diseases) D:191 Langland) Goat (Disease), G:223 Viral disease Robin Hood, R:303 Heredity (Hereditary disorders), H:169 Disease (Viral diseases), D:191 Vision test Virchow, Rudoif [German doctor], Leukaemia, L:195 Blind spot, B:387 Medicine (The medical revolution), V:400 Colour blindness, Ci:251 with pictures Medicine (The scientific study of dis-Eye (Receiving regular eye examina-Multiple sclerosis, M:694 ease), M:316 tions), E:444 Potato (Diseases and insect pests), Vireo [bird], V:401 with picture Visions [book by Quevedo] Virgil [Roman poet], V:401 P:720 Quevedo, Francisco de, Q:27 Virus (computers) Classicism (Rome), Ci:65 Visit, The [play by Dürrenmatt] Data protection, D:40 Aeneld, A:69 Dürrenmatt, Friedrich, D:356 Juno, 1:170 Vlsa, V:408 Visayan Islands [Philippines], V:408 Visitation group Latin literature (The Augustan age), Sculpture (The peak of architectural Viscacha (rodenti, V:408 sculpture), 5:209; picture on Poetry (Ancient poetry), P:613 Viscose process Rayon (How rayon is made), R:148 with S:210 Rome, Ancient picture on, R:381 Vistula River [Poland], V:409 Virgin and Child with Saint Anne picture Visual acuity Viscosity, V:408 with picture painting by Leonardo da Vincil Eye (Receiving regular eye examina-Leonardo da Vinci (Paintings), L:180 Viscount (title), V:409 Peer of the realm (Degrees of the tions), E:444 Virgin Birth [religion] Visual display terminal (VDT) peerage), P:243; (Viscount) P:244 Immaculate Conception, 1:35 Communication (in business and in-Vishinsky, Andrei Yanuarievich (Rus-Virgin Islands, British (West Indies), dustry), Cl:228 sian prosecutor and diplomati, V:402 with picture and map Printing (Typesetting), P:781 Virgin Islands of the United States, VM09 Visual induction Vishistadvalta V:402 Perception (Principles of perception), Virgin Lands project India, Philosophy of, I:136 Vishnu (Hindu god), V:409 with picture 1:278 Kazakhstan (History), K:206 Vital record Virgin Mary Visible horizon Genealogy, G:75 See Mary Horizon, H:277 Vital statistics, V:409 Virgin of Guadalupe Visible load See also Birth and death rates; Census; River (The mouth of a river), R:290 Guadalupe Day, **G:390** Divorce: Marriage; Population Virgin olive oil Visible spectrometer Vitamin, V:410 Instrument, Scientific (Spectrometers), Olive oil, O:430 Virgin wool Vitamin B 1:268 Nutrition (Vitamins), N:364 Wool (Types of wool), W:310 Visible spectrum Virginal [musical instrument], V:403 Colour (The relation between colour Pellagra, P:248 Pork, P:691 Virginia [U.S.A.], V:403 with picture and and light), Ci:192 Vitamin B complex Light (Electromagnetic waves), L:259 Vitamin, V:411 Raleigh, Sir Walter (His expeditions), with diagram

Optics (Basic principles of optics),

R:127

Vitamin, V:410

L:179 with picture

Vittoria, Alessandro (Italian sculptor)

Sculpture (Michelangelo), S:212 Headphones, H:94 Baby (Vitamins and iron), A:9 Voice of Scotland Vivaldi, Antonio Italian composerl, Diet (Normal diet), D:169 Scotland (Religion), S:162 Drug. D:314 V-413 Voice of the Turtle, The play by Van Goldberger, Joseph, G:239 Vivekananda (Indian philosopher), Medicine (The medical revolution). V:413 Druten Viviparous animal, V:413 Van Druten, John William, V:310 Milk. M:466 Reptile (Reproduction), R:233 Voiceprint, V:415 with picture Nutrition, N:364: (Vitamin deficiencies) Vivisection Voile [fabric], V:415 N:368 Animal experimentation, A:417 Voivodina [province] Serbia, S:266; (History) S:268 Vitamin B1 Vivisector, The book by Whitel Nutrition (Vitamins), N:364 White, Patrick, W:232 Yugoslavia, Y:470 Vitamin, V:411 Vixen Volapük (language), V:415 Vitamin B² See Fox Universal language, U:265 Nutrition (Vitamins), N:364 Vizier [title]. V:413 Volatile oil Vitamin, V:411 Vizsla [dog], V:413 with picture Oil. 0:420 Vitamin B⁶ Dog picture on, D:227 Volcanic ash Vitamin, V:411 Vladimir I [Russian nobleman], V:413 Volcano (Rock fragments), V:417 Vitamin B 12 Vladimir I [Russian prince] Volcanic bomb Hodgkin, Dorothy Crowfoot, H:240 Russia (The state of Kievan Rus), R:485 Rock (Extrusive rock), R:307 Ukraine (Kievan Rus), U:12 Nutrition (Vitamins), N:364 Volcano (Rock fragments), V:417 Vitamin, V:411 Viadivostok (Russia), V:414 Volcanic dust Vitamin A Viaminck, Maurice de [French artist]. Dust. D:357 Nutrition (Vitamins), N:364 V:414 Volcano, V:417 Vitamin, V:410 Viamingh Plate Volcanic eruption Vitamin C De Vlamingh, William, D:146 Disaster (Natural disasters), D:187; Nutrition (Vitamins), N:364; (Vitamin Viamingh, William de Dutch explorer (table) D:187 deficiencies) N:368 De Vlamingh, William, D:146 Volcanic tuff Vitamin, V:411 Dutch explorers, D:358 Volcano (Volcanic ash), V:417 Vitamin D Vocabulary, V:414 Volcano, V:416 with pictures and map Nutrition (Vitamins), N:364: (Vitamin Basic English, B:132 See also list of Related Articles deficiencies) N:368 English language, E:281 Andes Mountains, A:355 Ultraviolet rays (Uses of ultraviolet Reading, R:154 Earth (The shaping of the continent), Vocabulary of Science, The lbook by rays), U:19 E:25 with diagram Island (Volcanic islands), I:423 with Vitamin, V:411 Hogben) Vitamin deficiency Hogben, Lancelot, H:242 diagrams Nutrition, N:367 Vocal cord Kilimanjaro, K:248 Vitamin D₂ Larynx, L:67 with diagram Life (Modern theories), L:249 Vitamin (Vitamin D), V:411 Mount Etna, M:657 with picture Music (Musical instruments), M:727 Vitamin D_s Mount Lamington, M:660 Singing (How people sing), \$:453 Vitamin (Vitamin D), V:411 Mount Saint Helens, M:662 with pic-Sound (The human voice), So:46 Vitamin E Voice (The human voice), V:414 Mountain (Volcanic mountains), M:666 Nutrition (Vitamins), N:364 Vocal music Vitamin, V:411 Ocean (Deep-sea peaks, valleys, and Classical music, Ci:55 with pictures Vitamin K Vocal tic [disorder] plains), 0:398 Nutrition (Vitamins), N:364 Tourette syndrome, T:311 Paricutin, P:174 with picture Philippines (Land and climate), P:377 Vitamin, V:411 Vocational counsellor Vitamin P Plate tectonics (Convergent plate Handicapped (Vocational training), Citrin, Ci:17 H:46 with picture boundaries), P:585 Vitebsk Vocational education Pompeii, P:664 with picture Belarus (Government), B:208 Education, E:84 Radar picture on, R:58 Vitebsk [music by Copland] Rock (Extrusive rocks), R:307 United Kingdom, Educational systems Saint Lucia (Land and climate), S:39 Copland, Aaron, Ci:340 of the, U:96 Viti Levu [island] Vocational training Vesuvius, V:351 with picture Fiji, F:75; (Land regions) F:77 Handicapped, H:46 with picture Vulcan, V:429 Vitiligo [disorder] West Indies (Land), W:169 Vodun (religion) Skin (Other skin disorders), S:471 Volcano Lover (book by Sontag) West Indies (Religions), W:166 Vitis vinifera [grape] Sontag, Susan, So:42 Vogelweide, Walther von der Wine (Where wine comes from), See Walther von der Vogelweide Volcanology Volcano (The study of volcanoes), W:273 Voice (grammar), V:415 Vitreous humour See also Conjugation; Verb V:420 Blindness (Disease), B:388 Vole [animal], V:421 with picture Voice [sound], V:414 Eye (Parts of the eye), E:436 with dia-See also list of Related Articles Volga River, V:422 gram; (Diseases of the retina) Frog, F:465 River (table), R:290 Russia (Rivers and lakes), R:479 E:442 Sound (The human voice), So:46 Vitruvian man (drawing by Leonardo Volgograd [Russia], V:422 Speech therapy (Types and causes of da Vincil See also Stalingrad, Battle of speech defects), So:208 Volkov, Vladislav (Russian astronaut) Leonardo da Vinci (Life sciences),

Theatre (Body and voice), T:195; (Vocal

characterization) T:196

Voice coil

Space exploration (Salyut and Skylab),

So:155

Volkswagen, V:422 Volleyball [game], V:422 with pictures Vollmer, August (American police

Police (History), P:643 Volpone [play by Jonson]

lonson, Ben, J:140

Volt junit of measurement, V:423 Flectric current (Conductors and insulators), E:143

Electricity (Electric circuits), E:169 Flectromotive force, E:177

Volta, Count, V:423

Volta, Count Italian inventor, V:423 Electricity (Experiments with electric charges and currents), E:171

Physics (Developments in the 1800's),

Voltage

Electric generator (A simple generator), E:146

Electricity (Electric circuits), E:169 Electrolysis (Laws of electrolysis),

E:175

Scanning probe microscope, S:121 Volt, V:423

Voltmeter, V:424

Voltage

Electronics (Terms used in electronics), E:185

Voltaic pile

Volta, Count, V:423

Voltaire (French author), V:423 with portrait

Châtelet, Marquise de, C:357

Democracy (French contributions to democracy), D:104

Drama (France), D:295

Freethinker, F:438

French literature (The Age of Reason),

F:448

Peace (From the 1400's to the 1700's), P:224

Pen name, P:252

Philosophes, P:419

Pope (The 1700's and 1800's), P:678 Rationalism, R:143

Sculpture (European sculpture), S:212 with picture

Voltmeter, V:424

Galvanometer, G:18 with picture Potentiometer, P:721

Thermocouple, T:214

Volt, V:423

Volume, V:425

See also list of Related Articles Archimedes (His discoveries), A:511 Cube, Cl:484 with diagram

Cylinder, Ch511

Gas, G:58

Measurement, M:294

Metric system, M:386

Sculpture (Form and treatment), S:191

Voluntary muscle

Human body (Skeletal muscles), H:351 Muscle (Skeletal muscles), M:715

Column (The Ionic column), Ci:213 Volvox

Algae picture on, A:250

Protozoan (Flagellates), P:818

Vomiting, V:425

Von...

Names beginning with Von are alphabetized either as single words or under their key words

Von Braun, Wernher (German-

American engineer], V:425 with por-

Rocket (Rockets of the early 1900's),

Von Neumann, John [Hungarian-American mathematician]. V:426

Computer (The first electronic computers), Ci:265

Game theory, G:26

Weather (Scientific advances in the 1900's). W:122

Von Recklinghausen's disease See Neurofibromatosis

Von Sternberg, Josef (American film director], V:426

von Tschermak, Erich (Austrian botanistl

Cell (The 1900's), C:303

Von Willebrand factor

Von Willebrand's disease, V:426

Von Willebrand, Erik [German doctor] Von Willebrand's disease, V:426

Von Willebrand's disease, V:426

Haemophilia (Major types of haemophilia), H:6

Vonnegut, Kurt, Jr. [American author], V:425 with picture

American literature (Fiction and other prose), A:320

Voodoo [magic], V:426 with picture Doli (Doli festivals and customs),

D:244

Duvalier, François, D:359

Haiti (Religion), H:17

Magic (Contagious magic), M:45 West Indies (Religions), W:166

Witchcraft (Witchcraft today), W:282

Voortrekker Monument [Pretoria]

Great Trek picture on, G:328

Voortrekkers (people)

Great Trek, G:327 with picture Natal, N:28

Pietersburg, P:490

South Africa, History of (White occupation of the interior), So:79 picture on So:81

Transvaal (History), T:364

Vorster, Balthazar Johannes (South African political leader], V:427

South Africa, History of (Opposition to apartheid), So:85

Vorticella

See Protozoan

Vortigern

Anglo-Saxons, A:371

Hengist and Horsa, H:151

United Kingdom, History of the (The Anglo-Saxon settlement), U:129

Voskhod programme

Space exploration (Voskhod and Gemini: The first multiperson space

flights), So:148 with picture

Voss [novel by White]

Australia, Literature of (Modern novels). A:832

Voss (book by White)

White, Patrick, W:232

Vostok (spacecraft) Gagarin, Yuri Alekseyevich, G:7

Space exploration, So:128; (Vostok and Mercury: The first human beings in space) So:145; picture on

So:146

Voting, V:427

See also list of Related Articles Africa (Africa today), A:153

Election, E:138

Electoral college, E:139

Gerrymander, G:142

Parliamentary procedure (Voting on motions), P:197

Preferential voting, P:741

Suffragettes, So:389

United Nations, U:166

Women's movement (The right to vote). W:296

Vow of Louis XIII. The painting by in-

Ingres, Jean Auguste Dominique, I:233

Vowel (speech), V:428 Spanish language, So:192

Vox Balange (music by Crumb)

Crumb, George, Cl:462

Voyage of Discovery . . . in the Years 1790-1795 [book by Vancouver]

Vancouver, George, V:307

Vovager (space probe)

Jet propulsion laboratory, J:107 Jupiter (Flights to Jupiter), J:172

Observatory picture on, O:382

Planet (Improved observations), P:538

Saturn (Flights to Saturn), S:102 Space exploration pictures on, So:142, So:143

Uranus, U:276

Van Allen belts, V:305

Navy (Ships and aircraft), N:59

V/STOL [aircraft], V:428

Aeroplane (Special-purpose planes), A:89 with picture

Aviation (The future of the industry),

Warship (Amphibious warfare ships), W:43

VTOL laircraft

Aeroplane (Special-purpose planes),

Aviation (The future of the industry), A:000

V/STOL, V:428

Vuchetich, Yevgeny [Russian sculptor] Sculpture (As monuments and

memorials), S:188 with picture Vuillard, Edouard [French painter],

V:428 Vulcan [Roman mythology], V:429 See also Hephaestus; Venus

Vulcanian eruption

Volcano, V:420

Gottfried von Strassburg, G:265 Opera, 0:464; (Ring of the Nibelung,

Romania (Unification movement). The 0:472 Vulcanization Goodyear, Charles, G:253 Overture, 0:526 Wagon [vehicle]. W:4 with pictures Walata (West Africal, W:9 Invention (Creative insight), £313 Wagtail [bird], W:4 Walbury Hill Rubber (Discovery of vulcanization), Wahhabis [religious group] Berkshire (Land regions), B:246 R:430: (Vulcanization) R:436 Walcott, Derek [West Indian writer]. Tyre (Assembling a tyre), T:490 Ikhwan, I:30 Vulcan [Roman mythology], V:429 Oatar (History), Q:3 W:9 Vulgate [Bible], V:429 Saudi Arabia (The Saud dynasty), S:110 West Indies (Literature), W:168 Bible (The first translations), B:275 Wahlöö, Per [Swedish writer] Walden Pond [U.S.A.] Thoreau, Henry David picture on, Sweden (Literature), So:467 with picture Wahoo [fish], W:5 with picture T:225 Jerome, Saint, 1:86 Walden [book by Thoreau] Old Testament (Translations), 0:429 Waikato Basin Vulture, V:429 with picture New Zealand, N:158 American literature (Nonfiction prose), Animal picture on, A:385 Waikato River [New Zealand], W:5 with Thoreau, Henry David, T:225 Ear picture on, E:13 picture Wailing Wall Waldenses [religious group], W:9 Eye (Eyes of animals), E:444 See Western Wall Waldheim, Kurt [Austrian diplomat], Reproduction, Human (in females), Wain, John (British novelist), W:5 R:225 Wainwright, Jonathan Mayhew United Nations (The secretary-general). Sex (Boys and girls), 5:290 [American general]. W:5 U:167 with portrait Bataan Peninsula, B:149 Waldo, Peter (French religious leader) Waitangi Day [New Zealand], W:8 Waldenses, W:9 Waitangi, Treaty of, W:5 Waldseemüller, Martin [German car-New Zealand, History of, N:168 with tographer picture **Exploration (Exploring the New** New Zealand (People), N:154 World), E:421 Waite Institute, W:8 Map (Advances in European cartogra-W [letter] with picture, W:1 Waite, Peter [Australian colonist], W:8 phy), M:191 W [symbol] Waiting for Godot [play by Beckett] Vespucci, Amerigo, V:351 Tungsten, T:440 Beckett, Samuel Barclay, B:178 Wales, W:10 with pictures and maps W particle Drama (Theatre of the absurd), D:300 See also list of Related Articles with CERN, C:329 with picture the Wales article Physics (Physics today), P:478 Waiting for Lefty play by Odets Arms pictures on, A:589 WAC Corporal (rocket) Odets, Clifford, 0:410 Cardiff, C:192 Space exploration (The first space Waiting for the Mahatma book by Church in Wales, C:501 rockets), So:140 Naravan) Edward I. E:93 Wace [Norman poet] Narayan, R. K., N:24 Edward II, E:93 Knights and knighthood (Knighthood England (The beginnings of Parlia-Waitomo Caves [New Zealand], W:8 in literature}, K:303 ment), E:276; (The English Refor-Wake Round Table (Origin), R:411 Lancashire (Local customs and legmation) E:277 Waddesdon Manor ends). L:39 Home rule, H:253 Stately homes of Britain and Ireland, Wake [funeral], W:B Kings and queens of Britain and Ire-So:300 land (Early rulers of Scotland and Funeral customs (Preparation of the Wadi igeologyi Wales), K:262; (The last rulers of body), F:484 Egypt (The Eastern Desert), E:112 Wake Island [Pacific Ocean], W:8 Wales) K:266 Wadl Qumran [region, Israel] Mythology (Celtic mythology), M:760; Wakefield (England), W:8 Dead Sea Scrolls, D:54 Wakefield, Arthur (Welsh myths) M:760 Wage controls New Zealand, History of (The New Wales, Prince of Inflation, 1:231 Zealand Company), N:169 See Prince of Wales Wage-price spiral Wakefield, Edward Gibbon (His fam-Wales, Princess of Inflation (Theories about the causes of ily), W:9 See Diana, Princess inflation), I:230 Walesa, Lech (Polish political leader), Wakefield, Edward Gibbon (British co-Wagen-Dörfer Ionial reformer), W:8 with portrait W:22 with portrait Berlin (Residential areas), B:248 New Zealand, History of (British interlaruzelski, Wojciech, J:66 Wager (gambling), W:2 Mazowiecki, Tadeusz, M:284 vention). N:168 Wages and hours, W:2 South Australia (Exploration), So:114 Nobel Prizes (Peace), N:235 Poland (Recent developments), P:633 See also list of Related Articles Wakefield, William Capitalism (Income), C:145 New Zealand, History of (British inter-Wali Sanga, W:22 Wagga Wagga [Australia], W:2 with picvention), N:168; (The New Zealand Walk [horseriding] Horse (How to ride), H:296 with picture Company) N:169 Wagner, Otto [Austrian architect] Wakefield, Edward Gibbon (Colonizatures Architecture (Early modern architection of New Zealand), W:9 Walk in space Space exploration (Voskhod and Gemture in Europe), A:532 Wakonda Wagner, Richard [German composer], ini: The first multiperson space Indian, American (Beliefs), 1:148 W:2 with portrait flights), So:148 with picture Walachia Classical music (The romantic era), Walkabout [book by Marshall] Romania map on, R:357 Marshall, James Vance, M:226 Romania (Land regions), R:354 with Walker of Worcester, Lord British po-

Romania (Turkish rule), R:356

litical leaderl, W:22

Walker, Alan (British palaeontologist) Homo erectus, H:257 walker, Alice [American writer] American literature (Fiction and other

prose), A:320 Walker, David [American abolitionist], W:22

Walker, John (English pharmacist) Match (The first matches), M:253

Walker, John (New Zealand athlete),

W:22 Walker, Kath [Aboriginal poet], W:22

Walker, Peter See Walker of Worcester, Lord

Walkie-talkie (radio), W:22

Walking, W:22

Hiking, H:202 with picture Insect (Legs), L:259

Transportation (Engineless land transportation). T:348 with picture

Wall cloud

Hurricane, H:388

Wall covering

Interior decoration. I:286

Wall of China

See Great Wall of China

Wall painting

Mural, M:703 with pictures

Wall Street [New York City], W:23

Wallables (sport)

Rugby football (Australia), R:448

Wallaby, W:23 with picture Animal picture on, A:407

Dingo, D:174

Marsupial (Kinds of marsupials), M:228 with picture

Wallace, Alfred Russel | British naturalist]. W:23

Darwin, Charles Robert (The influence

of Darwin's ideas), D:40 Evolution (Darwin's theory), E:412

Wallace, Edgar (British novelist), W:24 Wallace, Lew [American author], W:24

Wallace, Sir William [Scottish patriot], W:24

Edward I, E:93 Wallace's Line

Wallace, Alfred Russel, W:23

Wallaman Fails

Queensland picture on, Q:17

Wallaroo [animal], W:24 with picture Kangaroo (Types of kangaroo), K:185

Wallasey [England], W:24

Wallboard, W:24

Wallenberg, Raoul (Swedish diplomat), W:25

Wallenstein, Albrecht Wenzel Eusebius von [Bohemian general],

Thirty Years' War (The Danish period), T:221; (The Swedish period) T:221

Waller, Edmund (English poet), W:25 Waller, Fats [American jazz musician],

W:25 with picture Jazz (The 1920's), J:75

Wallflower (plant), W:25 with picture Wallington Hall (England)

Northumberland (Places to visit), N:288 Wallis, Sir Barnes (British aeronautical

engineerl, W:26

Walloons (people), W:26 Belgium (People), B:215

Flemings, F:226

Wallpaper, W:26

Interior decoration (Wall coverings), 1:286

Paperwork, P:138

Walls and Bars [book by Debs]

Debs, Eugene Victor, D:63

Wallum [Australia], W:26 Walmer Castle (England)

Kent (places to visit), K:221

Walnut [tree], W:26 with picture Wood picture on, W:299

Walpole, Horace (English author), W:28 Gothic novel, G:264

Romance, R:348

Walpole, Sir Hugh Seymour British author]. W:27

Walpole, Sir Robert (English political leader), W:27 with picture

Prime minister, P:778

Walpurgis Night, W:28

Walrus [sea animal], W:28 with picture Animal picture on, A:393

Pribilof Islands, P:774

Walsall (England), W:28

Waish, Donald (U.S. Navy officer) Pacific Ocean (Exploration), P:15

Walsingham, Sir Francis English politician), W:29

Walt Disney Company, W:29 Disney, Walt, D:201

Walter, Bruno [German conductor], 14/-29

Waltham Forest (England), W:29

Walther von der Vogelweide Austrian poetl, W:29 German literature (The minnesingers),

G:107

Minnesinger, M:497

Walton, Ernest Thomas Sinton Ilrish physicisti, W:29 Particle accelerator (History), P:206

Walton, Izaak [English author], W:29 with portrait

Walton, Sir William English composerl, W:29

Waltz, W:30

Dancing picture on, D:27

Waltzing Matilda [Australian song], W:30

Waltzing Matilda [song]

Australia, Literature of (The Middle Period), A:831

Walvis Bay Idistrict, cityl, W:30 with picture

Wampum, W:30 with picture Clam, Cl:50

Indian, American (Money), I:149 Wandering Islands, The poetry by

Hope, Alec Derwent, H:275

Wandering Jew (legendary figure), W:30 Wandsworth (England), W:30

Wang Hongwen (Chinese political leader]

Jiang Qing, J:117

Wang Wei [Chinese painter], W:31 with picture

Wang Yangming [Chinese philosopher] Confucianism (Later Confucianism), CI-278

Wanganui [New Zealand], W:31 Wangaratta [Australia], W:31

Waning of the Middle Ages, The [book by Huizinga]

Huizinga, Johan, H:345

Wankel engine Car. C:175

Petrol engine (Kinds of petrol engines),

P:331 Rotary engine, R:405

Wankel, Felix [German engineer] Rotary engine, R:405 with diagrams

Wannakhadi Thailand (Arts), T:182

Wansbeck [England], W:31

Wansdyke (England), W:31 Wantsum (England)

Thanet, T:187

Wapentake [Anglo-Saxon administrative areal, W:31

Wapiti lanimall, W:31 with picture Deer (North American deer), D:80 with picture

Elk. E:215

War aces (aviation), W:34 War and Peace [book by Tolstoy] Tolstoy, Leo (His masterpieces), T:289

War and Remembrance book by Would

Wouk, Herman, W:412

War. W:32

See also list of Related Articles Amphibious warfare, A:343 Guerrilla warfare, G:403 International law, I:291 Mine warfare, M:481 with pictures

War correspondent, W:34 War crime, W:35

Genocide, G:85

International law (Violations), 1:291 Nuremberg Trials, N:351

World War II (Peace with Germany),

W:407 War game

Game (recreation), G:25

War of 1812, W:35 with map Canada, History of, C:100

War of Independence Ireland, History of, I:376

War of the American Revolution See American Revolution

War of the Austrian Succession Succession Wars, So:378

War of the Bavarian Succession

Succession wars, So:379 War of the Polish Succession

Succession wars, So:378 War of the Spanish Succession

England (War with France), E:279 Succession wars, So:378 War of the Worlds, The book by

Wells

Welles, Orson, W:145

708 War on World Poverty, The Wells, H. G., W:148 War on World Poverty, The book by Wilson Wilson, Lord, W:260 War Powers Resolution, W:37 War prisoner See Prisoner of war War Requiem Ippem by Owen] Owen, Wilfred, 0:527 Waratah (plant), W:37 Warbeck, Perkin [English pretender], Warble fly [insect], W:37 with picture Warbler [bird], W:37 Warburton, Peter Egerton [Australian explorerl, W:38 Australia, History of (Land exploration), Exploration (table), E:426; map on E:425 Ward [law], W:38 W:39 Feudalism (The principles of feudalism), F:63 Ward, Aaron Montgomery | American businessmanl, W:39 Ward, Artemus | American humorist|, Ward, Barbara (British economist), W:39 Ward, Frederick See Thunderbolt, Captain Ward, Mary Augusta [British author]. Ward, Montgomery Ward, Aaron Montgomery, W:39 Prison (The prison), P:790 **Wardour Castle** Wiltshire (History), W:266 Warhead [weapon] Bomb. B:433 Guided missile, G:406 with diagram Nuclear weapon (Strategic nuclear weapons), N:338 with diagram Torpedo (How a torpedo operates), T:303 with diagram Warhol, Andy lAmerican artistl, W:39 Pop art, P:672 Warlock (witchcraft) Witchcraft, W:281 Warlock, Peter [British composer]. W-an Warm-blooded animal, W:40 Animal (Some common ways of grouping animals), A:380 Animal (Warm-blooded and coldblooded animals), A:378 Mammal, M:125

Warm-core cyclone

Warning coloration

Cyclone, Ci:511

Warp beam

Damask, D:17

Velvet, V:326

Textile (Woven fabrics), T:171

Warp

Protective coloration picture on, P:813 Weaving (Weaving on a loom), W:125 Rugs and carpets (Weaving), R:450

Weaving (Types of weaves), W:124 Warping Cotton (Spinning), Ci:387 with picture Warragamba Dam [Australia], W:40 Warrant [document], W:40 Warrant of arrest Warrant, W:40 Warranty Consumerism (The right of quality), Ci:312 Guarantee, G:394 Warren Report, W:40 Kennedy, John Fitzgerald (The assassination controversy), K:218 Warren, Earl [American Chief Justice] Warren Report, W:40 Warren, Robert Penn [American poet], American literature (Poetry), A:319 Warren, Sir Charles (British police officiall Jack the Ripper, J:4 Warrington [England], W:40 Warrnambool [Australia], W:40 Warrumbungle Range [Australia], W:41 Wars of Religion Roman Catholic Church (The Counter Reformation), R:342 Wars of Succession See Succession wars Wars of the Roses, W:41 Edward IV, E:94 England, E:277 Henry VI, H:152 Lancaster, L:42 Shakespeare, William (The English ruler), S:305 Towton, Battle of, T:320 Tudor, House of, T:436 Warwick, Earl of, W:47 Warwickshire (History), W:50 York, Y:456 Warsaw [Poland], W:41 with picture Poland, P:623 Warsaw grouper Jewfish, J:111 Warsaw Pact, W:42 Communism (The Cold War), Ci:242 North Atlantic Treaty Organization (History), N:259 Warship, W:42 with picture See also list of Related Articles Wart, W:47 with picture Wart hog lanimall, W:47 with picture Warung, Price [Australian writer] Australia, Literature of (The Middle Period), A:831 Warwick [England], W:47 with picture Warwick Castle England picture on, E:262 Warwickshire (Places to visit), W:49 with picture

W:47

Edward IV, E:94

Warwick, Guy of

See Guy of Warwick

Warwickshire (History), W:50

Warwickshire [England], W:48 with pictures Arms picture on, A:586 Wash, The England, W:51 England (Surface features), E:270 with United Kingdom (The English Lowlands), U:55 Washakie [U.S.A.], W:51 Washbasket Washing machine, W:51 Washerwoman, The [painting by Daumierl Daumier, Honoré, D:42 Washing machine, W:51 with diagrams Washing soda Soda, So:15 Washington, D.C. [book by Vidal] Vidal, Gore, V:368 Washington, D.C., W:53 with pictures and map See also list of Related Articles United States (Political divisions), 11:183 Washington (England) Tyne and Wear (Local government), Washington [state, U.S.A.], W:51 with pictures and map Washington, George [U.S. president], W:61 with portrait Cabal, C:2 Gas (Development of the natural gas industry), G:56 Mount Vernon, M:663 with picture Pennsylvania (History), P:264 President of the United States (table), Quarter [money], Q:8 with picture Sculpture (American sculpture), S:214 with picture Suigrave Manor, So:397 with picture Washington, D.C., W:56 (History) W:59 Weems, Mason Locke, W:132 Washington, Booker T. [American educatorl. W:52 American literature (Nonfiction writers), A:316 Washington, Treaty of, W:63 Washington Conference, W:63 Washington Monument, W:63 Washington, D.C., W:56 with picture Washington, D.C. White House, W:233 with pictures Washingtonia palm Palm picture on, P:107 Wasp [insectl, W:63 with pictures Animal (Fighting), A:404 Fig, F:74 Ichneumon wasp, k24 with picture Insect (Protection from enemies), 1:259 with picture; (Why insects behave as they do) I:260 Orange (Pests and diseases), 0:482 Warwick, Earl of [English statesman], Spider (Enemies), So:226 Wassail (custom) Somerset (Local customs), So:37

Wassermann test

Wassermann, August von, W:64

Wassermann, August von [German T:256 Water power, W:91 See also list of Related Articles bacteriologistl, W:64 Water conservation Waste disposal, W:65 Conservation, Ci:295 Energy supply (Water power), E:248 Nuclear energy (Wastes and waste dis-Water (Water management and conwith picture: (Tidal power) E:249 Water wheel, W:92 with picture posal), N:326 servation). W:74 Ocean (Ocean pollution), O:401 Water cress Water purification Cress. Ci:422 Kuwait (Land), K:344 Plumbing (The drainage system), P:602 Water crowfoot (plant), W:85 Water (City water systems), W:76 with Recycling, R:170 Water culture diagram Sanitation (Solid waste disposal), S:74 Water safety Space exploration (Eliminating body Hydroponics (Methods of hydropon-Boating (Boating safety), B:415 ics), H:408 wastel, So:137 Swimming, So:483 Water pollution (Control), W:90 Water cycle Water scorpion Waste Land, The (poem by Eliot) Hydrology, H:406 Insect (The variety of insects), 1:242 Water (Nature's water cycle), W:72 American literature (Modernist po-Water bug, W:84 with diagram etry), A:317 Water-skling (sport), W:91 with picture "Wasting Syndrome" Water dog See Mudpuppy Water softening, W:92 AIDS (Symptoms), A:179 Water-soluble vitamin Water drive Wat [food] Vitamin (Kinds of vitamins), V:410 Petroleum, P:346 Ethiopia (Way of life), E:339 Water spider Water flea, W:85 with picture Wat Tyler's Rebellion, W:65 Animal picture on, A:399 Crustacean, Ci:465 Watch [time], W:66 with pictures Water sports Egg (Other kinds of eggs), E:97 Time (Devices that measure time), See Boating; Diving; Fishing; Rafting; T:256 Water frame Skin diving; Surfing; Swimming; Arkwright, Sir Richard, A:576 Watch Tower Bible and Tract Soci-Waterskiing Cotton (England), Ch:388 etv Industrial Revolution (Spinning ma-Water stone See Jehovah's Witnesses Geode, G:86 Watcher on the Cast-Iron Balcony chines), 1:213 Water storage Spinning, So:230 [book by Porter] Plant, P:565 Textile (The Industrial Revolution), Porter, Hai, P:696 Water strider Watchmaking Water bug, W:84 Switzerland (Manufacturing), So:498; Water garden Gardening (Kinds of outdoor garden), Water supply with picture Aqueduct, A:485 with picture Watchtower, The [magazine] $G_{13}5$ Conservation (Water conservation), Water gas Jehovah's Witnesses, 1:81 Cl:295 Carbon monoxide, C:189 Water, W:68 with pictures Desert, D:130 Gas (How gas is manufactured), G:55 See also list of Related Articles Hobart, H:234 Haber process, H:2 Erosion (How erosion occurs), E:322 Mountain (Water flow), M:666 Water glass, W:86 with picture O'Connor, C. Y. (Goldfields Water Sup-Water hazard Forestry, F:357 ply Scheme), 0:405 with picture Golf (The course), G:245 Hydrosphere, H:408 Osmosis (Use of osmosis), O:512 Water hyacinth [plant], W:86 with pic-Mammal (in water), M:131 Reservoir, R:238 with picture Nutrition, N:363 ture Victoria (Water, Irrigation, mining, and Soll, So:20 Water-let cutting power), V:363 Machine tool (Other advanced ma-Space exploration (Eating and drink-Water (The water supply problem), chining operations), M:17 ing), So:137 VV+7.5 World, W:325 Water-level gauge Water table Water arum (plant) Gauge, **G:63** Drainage, D:280 Water Lilies (picture by Monet) Calla, C:40 Ground water, G:385 Monet, Claude picture on, M:546 Water Babies, A Fairy Tale for a Irrigation, I:405 Water lily plant, W:86 with picture Land-Baby, The [book by Kingsley] Well (Water wells), W:144 Kingsley, Charles, K:282 Water meadow Water transportation Cambridgeshire (The land), C:50 Water-based paint Transportation, T:348 Water meter, W:87 with pictures Paint (Household paints), P:23 Water moccasin [reptile], W:87 with Water treatment Water beetle, W:84 with picture Sanitation, \$:75 See also Beetle Water turbine Snake (The anatomy of a snake) picture Water boa Electric power (Hydroelectric power on, S:508 Anaconda, A:347 with picture plants), E:159 with diagram Water boatman Water movement Turbine, T:448 with picture Plant, P:561 Insect picture on, 1:256 Water vapour Water Music Imusic by Handel Water bug, W:84 with picture Cloud (How clouds form), Ci:110 Handel, George Frideric, H:41 Water buffalo, W:84 with picture Distillation, D:202 with diagram Water bug, W:84 with picture Water plant, W:88 Fog, F:284 See also list of Related Articles Water caltrop Humidity, H:368 Water pollution, W:88 with pictures Water chestnut, W:85 Rain (Formation of rain), R:116 with Water chestnut [plant], W:85 See also list of Related Articles diagrams

Conservation picture on, Cl:295

water pollution), E:401

Eutrophication (Eutrophication and

Water polo isporti, W:90 with picture

Water, W:82

Weather (Moisture), W:112

Water vascular system

Water clock, W:85

Clack (History), Cl:86

Automation (Early automation), A:875

Time (Devices that measure time),

Water vole Echinoderm, E:52 Water vole Vole. V:421 Water well Well. W:144 with picture Water wheel, W:92 with picture Arabs (Agriculture), A:492 Turbine (History), T:451 Water power, W:91 Waterberg (mountains, South Africa) Northern Province (Land), N:277 Waterbuck Antelope (Kinds of antelope), A:448 Mammal picture on, M:136 Watercolour, W:93 Painting, P:41 with pictures Waterfall, W:93 with pictures See also list of Related Articles Africa, A:138 Canada, C:84 River (The channel of a river), R:289 South America, So:94 with picture Water power (The mechanics of water power), W:91 Yosemite National Park, Y:461 Waterford (city, Ireland), W:97 Waterford (county, Ireland), W:95 with picture and map Arms picture on, A:588 Waterford glass Glass (Types of art glass), G:198 with picture Watergate (U.S. politics), W:97 Waterhouse, Henry British naval officerl. W:99 Waterloo, Battle of, W:99 Blücher, Gebhard Leberecht von. Napoleon I (The Hundred Days and Waterlool, N:22 Wellington, Duke of (Victory at Waterioo), W:147 Watermark, W:99 Paper (Special kinds of paper), P:136 Stamp collecting (Paper), So:271 Watermelon Ifruiti, W:99 with picture Melon (Types of melon), M:338 Watermelon tourmaline Tourmaline, T:313 Watermill (grinding machine), W:100 Waterproofing, W:100 Lacquer, L:9 Rubber (Uses of rubber), R:429 Sillcone (Uses), S:421 Waters and Lands [poetry by Quasimodol Quasimodo, Salvatore, Q:9 Waters, Ethei [American singer], W:100 with portrait Watershed

Ci:295

Waterzooi [food]

Watting Street

Forestry (Water), F:357

Watford [England], W:100

Roman roads, R:346

Belgium (Way of life), B:217

Conservation (Water conservation), Waterspout, W:100 with picture

Watson, Thomas J. [American businessman) International Business Machines Corporation (IBM), 1:288 Watson and the Shark [painting by Copley Copley, John Singleton, Cl:341 Watson-Crick model Watson, James Dewey, W:101 Watson-Watt, Sir Robert Alexander [Scottish inventor]. W:101 Radar (The first uses of radar), R:61 Watson, Chris (Australian political leaderl, W:101 Watson, Dr. John [literary figure] Holmes, Sherlock, H:248 Watson, James Dewey [American blo]ogist]. W:101 Crick, Francis H. C., Cl:424 Heredity (The chemistry of genes), H:174 Science picture on, S:147 Watson, John Broadus [American psychologisti, W:101 Psychology (Behaviourism), P:830 Watson, Thomas Augustus Bell, Alexander Graham (The Boston teacher), B:228 Telephone (History), T:109 Watt lunit of measurel, W:101 Horsepower, H:310 Power (physics), P:731 Watt-hour meter Electric meter, E:152 with picture Watt, James (Scottish engineer), W:101 with picture Industrial Revolution (The steam engine), 1:213 Invention picture on, 1:315; (The Industrial Revolution) 1:317 Steam engine (Watt's engine), So:308 Watteau, Antoine [French painter], W:102 Rococo, R:328 Wattle and daub |construction| Haiti (Houses), H:16 Saint Vincent and the Grenadines (Houses), S:45 Wattle, W:102 Wattle Chicken (The body of a chicken), C:395 Pheasant (Appearance and habits), P:359 Turkey (The body of a turkey), T:466 Umbrellabird, U:20 Wattle Itreel, W:102 with picture Wattmeter, W:102 with picture Watts, Isaac [English clergyman], W:103 Watts, Quincy [athlete] Olympic Games picture on, Q:441 Malaysia (Sports and pastimes), M:88 with picture Waugh, Evelyn (English author), W:103 Wave front Waves (Diffraction), W:105 Wave length Colour (The relation between colour and light), Ci:192

Electromagnetic waves, E:176 Electron microscope, E:178 Laser (Characteristics of laser light). 1:72 Light (The nature of light), 1:258 with diagram Telescope (What telescopes do), T:112 Ultraviolet rays, U:18 Waves (Characteristics of waves). W:104 Wave motion Waves, W:104 Wave theory Light (Early ideas about light), L:264 Sound, So:53 Waves, W:106 Waveband See Frequency band Wavelet Waves (Diffraction), W:105 Wavell, Archibald Percival British soldier], W:103 Waveney [England], W:103 Waverley [England], W:103 Waverley novels (books by Scott) Scott, Sir Walter, S:174; (The Waverley novels S:175 Waves, The book by Woolfl Woolf, Virginia, W:313 Waves [geography] Ocean, 0:395 Waves [physics], W:103 See also list of Related Articles Wax begonia (plant) Gardening (Some popular house plants) picture on, G:41 Wax. W:106 Candle, C:124 Painting (Encaustic painting), P:42 with picture Polish, P:647 Sculpture (The sculptor at work), S:192 Sealing wax, S:227 Wax doll Doll, D:246 with picture Wax myrtle [tree], W:106 Wax tablet Manuscript, M:171 Waxbill (bird), W:106 with picture Waxwing (bird), W:106 with pictures Bird (How birds feed), B:340 Waxy maize Maize, M:73 Way Home, The Ibook by Richardsoni Richardson, Henry Handel, R:268 Way of an Indian, The book by Remington) Remington, Frederic, R:212 Way of the World, The Iplay by Congrevel Congreve, William, Ci:285 Drama (European drama: 1660-1800), D:294 Way to Wisdom, The [book by Jaspers] Jaspers, Karl, J:67 Wayang, W:107 Waybill See Bill of Lading

Wayne, Anthony [American general],

W:107 with picture

Indian wars (Other Midwestern conflicts), 1:174 with picture

Wayne, John [American film star], W:108 with picture

Film industry (Best performance by an actor), F:96

Wayward and the Seeking, The book by Toomer]

Toomer, Jean, T:297

We, the People [play by Rice] Rice, Elmer, R:267

We Are Going [poetry by Walker] Walker, Kath, W:22

We [people]

Sculpture (African sculpture), S:202 with picture

We Call for a Treaty work by Wrightl Wright, Judith, W:418

We of the Never Never [novel by Gunn] Australia, Literature of (Novels), A:832 Weak force (physics)

Grand unified theories, G:294 Physics (Physics today), P:478

Weakfish, W:108 Drum [fish], D:324

Weakly interacting massive particle (WIMP)

Dark matter, D:35 Weakons

Boson, B:475

Weald [England], W:108 Kent (Land regions), K:221

Wealden [England], W:108

Wealth of Nations, The book by Smithl

Science, S:148 Smith, Adam, S:498 Weaning

Baby, B:9 Weapon, W:108

Animal (Animal defences and weapons), A:402 with pictures

Indian, American (Indian ways of life), I:142; (Warfare) I:146; (Early days) 1:148

See also Firearm

Papua New Guinea, P:144

Vikings (Weapons and armour), V:392 with picture

Weapon fire control

Radar, R:57

Wear Valley (England), W:109 Weasel (animal), W:109 with pictures

See also list of Related Articles

Weather balloon

Weather, W:119 with picture See also Balloon

Weather, W:110 with pictures See also list of Related Articles Airport (Watching the weather), A:215 Environment (Abiotic environment),

Environmental pollution (Air pollution), E:301 with diagram Moon, M:587

Radar (In weather observation and forecasting), R:57 with picture Weather forecasting

Radar (in weather observation and forecasting). R:57 with picture Weather (Predicting the weather).

W:121: (Development of weather forecasting) W:122

Weather satellite

Satellite, Artificial, S:97 with picture; (History) S:98

Weather (Satellites), W:119; (Scientific advances in the 1900's) W:122

Weather vane, W:123 with picture Weathercock

Weather vane, W:123 with picture

Weathering

Conservation (Soil conservation),

Earth (How the earth changes), E:21 Erosion (How erosion occurs), E:322 Rock (Clastic sediments), R:308 Soil (Kinds of parent material), So:20

Weaver, James B. [American political leaderl

Populism (The People's Party), P:687 Weaverbird, W:123 with picture

Weavers, The [play by Hauptmann] German literature (Naturalism), G:110 Hauptmann, Gerhart, H:78

Weaving, W:124 with pictures See also list of Related Articles

Clothing (Why clothing varies), Cl:92 Cotton (Spinning), Ci:387 with picture Culture (Invention), Cl:493 Handicraft picture on, H:49 Indian, American (Weaving), 1:147 Industrial Revolution, I:213 Islamic art (Textiles), 1:421 Italy picture on, I:456 Orissa (Local crafts), O:499

Rugs and carpets, R:450 Textile (Woven fabrics), T:171; picture on T:173, T:175

West Bengal (Local crafts), W:158 with picture

Weaving machine

Invention (Why people invent), 1:310

Web and the Rock, The book by Wolfel Wolfe, Thomas Clayton, W:287

Web Izoologyl Spider (Web-spinning spiders), So:223

with pictures Web-fed press Offset, 0:416

Printing (Rotary presses), P:783

Web of life

Animal (Importance of animals), A:378 with picture

Webb, Francis (Australian writer) Australia, Literature of (Modern short stories), A:832

Webb, Beatrice British social reformerl, W:126

Webb, Sidney [British social reformer], W:126

Webber, Andrew Lloyd

See Lloyd Webber, Andrew Weber [unit of measure], W:127

Weber, Carl Maria von [German composer), W:127

Opera (Romanticism), O:464

Weber, Max (American painter), W:127 Weber, Max (German sociologist),

W:127 Weber, Wilhelm [German physicist]

Weber, W:127 Webern, Anton [Austrian composer], W:127

Webster-Ashburton Treaty

Webster, Daniel (Secretary of State), W/-128 Webster, Daniel (American statesman),

W:127 with picture Webster, John English playwrightl,

W:128

Webster, Noah [American educator], W:128 with portrait

Webster's Dictionary Webster, Noah, W:128

Wedding anniversary, W:129 Wedding

Hindulsm picture on, H:214 Kazakhstan (People), K:204 Marriage (Wedding ceremonles and customs), M:218

Wedekind, Frank (German playwright), W:129

Wedge, W:129

Machine, M:13 with picture

Wedge-tailed eagle, W:130

Wedge, John Helder (English-born surveyor], W:129

Wedgwood ware, W:130 with picture Wedgwood, Dame Veronica British writerl, W:130

Wedgwood, Josiah (British potter), W:130

Staffordshire (History), So:261 Wedgwood ware, W:130

Wednesday, W:130 Ash Wednesday, A:620

Odin, 0:411 Vikings (Religion), V:389 Week, W:131

Weebill

Warbler (Australian warbler), W:38 with picture Weed [gardening]

Cotton (Care during growth), Cl:385 Weed (plant), W:130

See also list of Related Articles

Gardening (Removing weeds), G:40

Weed, Thurlow (American journalist), W:131

Weedkiller

See Herbicide

Week, W:131

Time (Measuring time), T:256

Week on the Concord and Merrimack Rivers, A book by Thoreaul

Thoreau, Henry David, T:225

Weelkes, Thomas [English composer],

Weems, Mason Locke (American writer, W:132

Weeping willow Willow, W:260

Weever, W:132 with picture

Weevil [insect], W:132 with picture Beetle, B:198; (Mouthparts) B:196 Boll weevil, B:431 with pictures Grain weevil, G:287 with picture Pea (Diseases and pests), P:224 Well Textile (Woven fabrics), T:171 Weaving (Types of weaves), W:124 Weft knitting Textile, T:171 Wegener, Alfred [German meteorolo-Plate tectonics (History of tectonic theory), P:587 Weighing out Horse racing (The start), H:308 Weighing rain gauge Rain gauge, R:119 Rain (Measuring rainfall), R:115 Weighing scale See Scale, Weighing Weight, W:133 Baby (The first month), B:6; table on Gravitation (Newton's theory of gravitation). G:309 Mass. M:244 Matter, M:263 Measurement, M:295 Metric system, M:386 Pound, P:728 Weight, Atomic See Atomic weight Weight cloth Horse racing (Types of horse races), Weight control, W:133 Diet (Diets for losing or gaining weight), D:170 Weight-for-age race Horse racing (Types of horse races), H:307 Weight-gaining product Industry (Management), 1:222 Weight lifting, W:135 See also Body building Olympic Games table on, 0:441 Weight-losing product Industry (Management), 1:222 Weight, Carel (British painter), W:133 Weightlessness Space exploration (Microgravity), So:135; picture on So:136 Weights and measures, W:136 See also list of Related Articles International Bureau of Weights and Measures, I:289 Weill, Kurt [German composer], W:141 Weimar Republic Germany, G:135 President (Nonexecutive presidents), P:766 Weimaraner [dog], W:141 Dog picture on, D:227 Weinberg, Steven [American physicist] Grand unified theories, G:295

Weinberger, Caspar Willard [Ameri-

Weipa [Australia], W:141

can government official], W:141

Weir of Hermiston [book by Stevenson] Stevenson, Robert Louis (Stevenson's writings), So:322 Weisgard, Leonard [American artist], W:14Z Weismann, August [German biologist], W:142 Weissenburg, Otfried von [German author German literature (Early German literature), G:107 Weissmuller, Johnny (American swimmer], W:142 Weitz, Paul J. [American astronaut] Space exploration (Skylab), So:155 Weizmann, Chaim lisraeli political leaderl, W:142 with portrait Israel (Independence and conflict). 1:438 Zionism (Movement to Palestine). F:4999 Weizsäcker, Richard von [German political leader) President (Nonexecutive presidents). P:766; picture on P:765 Weka (bird), W:142 Welcome Stranger [gold], W:142 Welding lindustrial process!, W:142 with picture Acetylene, A:22 Sculpture picture on, S:193 Welding rod Welding (Fusion welding), W:142 with picture Welfare Health Insurance, National, H:97 Norway (Social welfare), N:296 Old age, 0:425 Social welfare, So:6 United Kingdom (Social welfare), U:52 Welkom, W:144 Welkom [South Africa] Free State, F:430 Well, W:144 Queensland, Q:21 South Australia (Lakes, rivers and wells), So:109 Well log Gas (Exploring for gas), G:51 Petroleum (Geological studies), P:341 Well testing Petroleum, P:345 **Welland River** Cambridgeshire (The land), C:50 Welland Ship Canal (Canadal, W:145 with map Canal (table), C:111 Great Lakes (Water routes to the sea), G:322 Niagara River, N:191 Saint Lawrence Seaway (Canals and locks), \$:37 with map

with portrait

Wellesley, Arthur

F:102 with picture

Wellingborough (England), W:145

See Wellington, Duke of

Wellington [New Zealand], W:145 with pictures New Zealand, N:152 with picture Wellington, Duke of [British general], W:147 with portrait Napoleon I (The Hundred Days and Waterloo), N:22 Portugal (A brief revival), P:706 Waterloo, Battle of, W:99 Wellow [England] Avon (Places to visit), A:892 Wells (England), W:147 Wells Cathedral [England] Somerset (Places to visit), So:38 Wells of Beersheba, The book by Davison Davison, Frank Dalby, D:49 Wells, Fargo & Company, W:148 Wells, H. G. [English writer], W:147 with portrait Wells, Henry See Wells, Fargo & Company Wells, Horace Dentistry (History of Dentistry), D:121 Wels [fish], W:148 Welsbach mantle Welsbach, Baron von, W:148 Weisbach, Baron von [Austrian chemistl. W:148 Neodymium, N:73 Praseodymium, P:739 Welsh [people] Wales (Ancestry and population), W:11; (Way of life) W:11 Welsh corqu See Cardigan Welsh corgi; Pembroke Welsh corai Welsh language, W:148 United Kingdom, Educational system of the (Wales), U:94 United Kingdom (Language), U:52 Wales (Language), W:11 Welsh literature, W:149 Wales (Arts), W:13 Welsh mythology Mythology, M:760 Welsh poetry See Welsh literature Welsh pony Horse (Ponies), H:290 with picture Welsh springer spaniel [dog], W:151 with picture Welsh terrier (dog), W:152 Dog picture on, D:232 Welty, Eudora [American writer], W:152 Welwitschia [plant], W:152 with picture Welwyn Hatfield [England], W:152 Wembley [England], W:152 **Wembley Conference Centre** Wembley picture on, W:153 Wembley Stadium Wembley, W:152 Welles, Orson [American actor], W:145 Wen [cyst], W:152 Wen-chou Film industry (Films in the 1930's), See Wenzhou Wenceslas, Saint

Prague, **P:736**

Wenlock Edge [England]

Shropshire (Places to visit), S:403

Wenning, Pieter Willem Frederick South African painterl, W:152

Wentworth, W. C. [Australian writer] Australia, Literature of (Early prose), A:830

Australia, Literature of (The development of poetry), A:830

Wentworth, Thomas See Strafford, Earl of

Wentworth, William Charles [Australian pioneerl, W:153

Blue Mountains [New South Wales], B:406: (History) B:406

Sydney (Buildings), So:505 Wenzhou [China], W:153

Werewolf, W:153

Wergeland, Henrik Arnold [Norwegian patriotl, W:154

Werner, Abraham Gottlob [German geologist], W:154 Asbestos (History), A:618

Geology (The rock dispute), G:93 Graphite, G:300

Werthelmer, Max [German psychologist)

Gestalt psychology, G:143 Psychology (Gestalt psychology), P:830

Weser River [Germany], W:154 Wesker, Arnold (British playwright),

W:154 with portrait Wesley, Charles [English religious

leader]. W:154 Hymn (History), H:411

Methodists, M:383 Wesley, John (English religious leader), W:154 with portrait

Methodists, M:383

Wesleyan Church (religious group), W:155

Wesley, John, W:154

Wesselmann, Tom American artist Pop art, P:672

Wessex [England], W:155 Alfred the Great, A:249 Heptarchy, H:158

Kings and queens of Britain and Ireland, K:261

Wesson, Daniel [American inventor] Handgun, H:43

West [international relations] Cold War. Cl:160

West, Benjamin [American painter] Wolfe, James picture on, W:287

West, Dame Rebecca British writerl,

West, Mae [American actress], W:155 West, Morris [Australian author], W:155

West, Nathanael [American writer],

West, The |American history|, W:156 West Bank [Jordan], W:156 with map

Gaza Strip, G:66 Hebron, H:131

Israel, 1:429; (The Six War) 1:439; (Recent developments) 1:439 Jordan, River, J:146

Jordan (History), J:144 Middle East (Attempt at peace), M:456 Middle East (Continuing conflict),

M:456

Middle East (Palestine), M:456 Middle East (Recent developments),

West Bengal, W:158 with pictures and map

Bengal, B:236

West Berlin See Berlin

West Bromwich [England] Sandwell, S:73

West Coast [New Zealand]

Westland, W:193

West Country, The [England], W:162 with picture

West Derbyshire

See Derbyshire Dales

West Devon [England], W:162 West Dorset [England], W:162

West Germany

Germany, G:112; (West Germany) G:138: (The unification of East and West Germany) G:139

West Glamorgan See Glamorgan

West Ham [England] Newham, N:179

West Hartiepool See Hartlepool

West Highland white terrier, W:162 with picture

West Indies, W:163 with pictures and See also list of Related Articles

Columbus, Christopher (The first landing), Ci:209

Cricket (Cricket in the West Indies), Cl:434

East Indies, E:41 Latin America, L:91

Telephone, T:109 **West Indies Federation**

Saint Lucia (History), S:39 Virgin Islands, British (History), V:402 West Indies (The road to independence), W:172

West Indies, University of the, W:173 West Jerusalem

Jerusalem, J:88 with picture

West Kirby [England] Merseyside (Places to visit), M:368

West Lancashire [England], W:173 See also Lancashire

West Lindsey [England], W:173 West Lothian (Scotland), W:173

West Midlands (England), W:173 with

Arms picture on, A:586

West Oxfordshire [England], W:174 West Point [U.S.A.], W:174

West Roman Empire

Byzantine Empire (Beginnings), B:701 Goths, G:264 Law (The Middle Ages), L:114 Rome, Ancient map on, R:383

West Siberian Plain Russia, R:477

West Side Story [work by Sondheim] Bernstein, Leonard, B:260

Dancing (Dancing since 1900), D:28 Sondheim, Stephen, So:40

West Somerset [England], W:174 West Virginia [U.S.A.], W:174 with picture and map

West Wiltshire [England], W:174 **West Wind Drift** Pacific Ocean (Currents and tides),

West Yorkshire (England) See Yorkshire

Westar

Western Union Telegraph Company,

Westbury White Horse

White Horses, W:233 with picture

Westbury, Lord (British government officiall. W:174

Westerham (England) Kent (Places to visit), K:221

Westerly wind

Prevailing westerly, P:773

Western Australia, W:175 with pictures and map

See also list of Related Articles Squatters in Australia, So:252

Western Cape Iprovince, South Africal, W:183 with map South Africa, So:55 with map

Western Carpathian Mountains

Czechoslovakia (Early history), Cl:523 Western Church (religion), W:184

Western coral snake Coral snake, Cl:350

Western Deep Levels Mine |South Africal

Gauteng (Economy), G:64

Western Dune Coast Denmark, D:113

Western European Union (WEU), W:184

Western Front

World War I, W:365; map on W:374

Western frontier life (American historyl, W:185 with pictures

Western Gats Imountains Maharashtra (Land features), M:66

Western hemisphere

See Hemisphere Western Highlands

Saudi Arabia, S:107

Western Hill Country New Zealand, N:158

Western Isles (Scotland), W:189 with pictures and map See also list of Related Articles

Arms picture on, A:589

Western lowland gorilla Gorilla (The gorilla's home), G:259

Western music Music, M:734

Western philosophy Philosophy (The history of Western philosophy), P:423

Western Plateaus, Basins, and Ranges

United States, U:211

Western red-cedar Arborvitae, A:497

Western Reserve [U.S. history], W:190 Western riding Horse (How to ride), H:296 with pictures Western saddle Horse (The saddle), H:294 Western Sahara, W:190 Hassan II, H:74 Mauritania (History), M:269 Morocco (Dispute over Western Sahara), M:616; (Morocco today) Western Samoa, W:191 with pictures and map Flag picture on, F:207 Western Sand Plains Denmark, D:114 Western Symphony [ballet] D'Amboise, Jacques, D:17 Western Union Telegraph Company, W:193 Telegraph, T:103; (Telegraphy and the railway) T:103; (The telegraph today T:103 Western Uplands and Plains Italy, 1:460 Western Wall [jerusalem], W:193 Israel picture on, I:440 Jerusalem, J:92 with picture Jews (Roman rule), J:114; picture on J:112 Western whipbird Whipbird, W:228 Westinghouse Electric Corporation, Westinghouse, George [American inventor], W:193 Westland Affair Thatcher, Margaret (Prime minister), Westland [New Zealand], W:193 Westmeath [Ireland], W:194 with map Arms picture on, A:588 Westminster, City of [England], W:193 London (Central London), L:368 Westminster, Palace of, W:195 Westminster Abbey, W:195 with pic-Edward the Confessor, E:95 Westminster Cathedral, W:196 with picture Westminster Choir [U.S.A.], W:196 Westminster Hall, W:196 Westminster, Palace of, W:195 Westminster School (England), W:196 Westminster Shorter Catechism Ireligion) Presbyterians, P:763 Westminster System Igovernmentl, W:196 Westmorland [England], W:196 Weston-super-Mare England Avon (Places to visit), A:892 See also Woodspring Weston, Edward [American inventor], W:196

Weston, Edward | American photogra-

Westonbirt Arboretum (England)

pher], W:197

Gloucestershire (Places to visit), G:213 Westphalia [German history], W:197 Westport Stately homes of Britain and Ireland, So:300 Westward Ho! [book by Kingsley] Kingsley, Charles, K:282 Westward movement [U.S. history], W:197 with pictures and map Wet-bulb depression Hygrometer (The psychrometer), H:409 Wet-bulb thermometer Hygrometer (The psychrometer), H:409 Wet milling Maize (The wet-milling industry), M:74 Weta linsectl, W:200 Wether wool Wool (Types of wool), W:310 Wetland, W:200 Bog, B:419 with picture Marsh, M:224 Swamp, So:454 with picture Wewak [Papua New Guineal, W:200 Wexford [Ireland], W:200 with pictures and map Arms picture on, A:588 Weyden, Rogier van der See Van der Weyden, Rogier Weymouth and Portland (England), W:202 Whale, W:203 with pictures See also list of Related Articles Animal (Fins, tails, and flippers), A:396; (Animal travellers) A:410: (Protected areas) A:413; picture on Conservation (International problems), Cl:304 Skull, S:474 Whale shark Animal picture on, A:395 Shark (Kinds of sharks), S:334 with pic-Whalebird Prion [bird], P:788 Whalers in the Midnight Sun book by Villiers, Alan, V:394 Whalesucker Remora, R:212 Whaling Colonial life in America, Ci:185 Conservation (International problems), Ci:304 Japan (Fishing industry), J:52 Whale (The early days of whaling), W:211; (Modern whaling) W:212

with picture

Villiers, Alan, V:394

American literature (Women writers),

Villiers

W:214

W:214

Whatever Happened to Baby Jane? Davis, Bette, D:46 Wheat Belt (Australia) Western Australia (The Plateau), W:179 Wheat, W:215 with pictures and map See also list of Related Articles Colonial life in America (Crops), Cl:184 Grass (Kinds of grasses), G:302 Triticale, T:410 Western Australia (Farming), W:180 with pictures Wheat germ Wheat (Food for people), W:215 Wheatley, Dennis (British author), W:226 Wheatley, Phillis [American poet], W:226 Wheatstone bridge [electric circuit], W:226 with picture Ohm 0:419 Wheatstone, Sir Charles, W:226 Wheatstone, Sir Charles [British physicist], W:226 Concertina, Ci:272 Harmonica, H:62 Invention (The Industrial Revolution), 6319 Telegraph (Development of the telegraph), T:102 Wheel and axle imechanical devicel, W:226 Wheel animal See Rotifer Wheel Car (The drive system), C:157; (Control systems) C:157 with diagram; (The support system) C:158 with diaqram Invention (Prehistoric times), I:314 Transportation (Early development of wheeled vehicles), T:350 Wheel method Pottery, P:724 Wheel of Love, The [book by Oates] Oates, Joyce Carol, 0:376 Wheel tractor Tractor, T:323 with picture Wheelbarrow, W:227 Transportation (Early development of wheeled vehicles), T:350 Wheeler, Sir Charles (British sculptor), W:227 Wheeler, Sir Mortimer British archae-Whaling in the Frozen South book by ologisti, W:227 Whelk [sea snail], W:227 Whampoa [Chinese businessman], "When Johnny Comes Marching Home" (song) Gilmore, Patrick Sarsfield, G:161 Whangarei [New Zealand], W:214 "When Lilacs Last in the Dooryard Wharton, Edith | American author),

Bloom'd" [poem by Whitman]

Whitman, Walt (His work), W:239

A:316

Williamson]

Copland)

Williamson, David, W:258 What to Listen for in Music [book by

Copland, Aaron, Cl:340

What If You Died Tomorrow [work by

When the Whippoorwill (book by Rawlingsl Rawlings, Marjorie Kinnan, R:147 When We Dead Awaken [play by thsen Drama (Modern drama), D:298 (bsen, Henrik, l:4

Where the Rivers Meet [book by Wain] Wain, John, W:5

Where the wild things are lillustration by Maurice Sendak Literature for children picture on,

L:322

Whetstone, W:227

Whev

Cheese (Separating the curd), C:362; picture on C:361

Whig Party, W:227 Whin

Furze, F:508

Whip

Horse, H:294 Whip grafting

Grafting (Kinds of grafting), G:282 with

Whip scorpion, W:228 Whip snake, W:228 Whipbird, W:228

Whiplash [injury], W:228 with picture Whippet, W:228

Dog picture on, D:229

Whipping post (punishment), W:228 Whippoorwill [bird], W:229 with pic-

Whipstock

Petroleum (Directional drilling), P:344 Whirled psychrometer

Hygrometer (The psychrometer), H:409 with picture

Whirligig

Water beetle, W:84

Whirling dervish

Dancing (Why people dance), D:22 Whirlpool, W:229

See also Maelstrom

Whiskey See Whisky

Whiskey Rebellion [U.S. history], W:229 Whisky W:229

Moray [Scotland] picture on, M:604 Scotland (Food and drink), S:161;

(Manufacturing) S:164 with pic-

Whispering Knights Rollright Stones, R:334 Whist [game], W:230 Hoyle, Edmond, H:335

Whistle, W:230

Whistier, James Abbott McNell

[American painter], W:230 with pic-

Impressionism (French impressionism), 1:47 Pennell, Joseph, P:262

Whistler's Mother [painting by Whistleri

Whistler, James Abbott McNeill, W:230 with picture

White African Landscape (painting by

Atkinson]

South Africa, Art of picture on, So:71 White, Patrick [Australian writer],

W:231 with portrait

White, Paul Dudley [American doctor], W:232

White, Gilbert (English naturalist), W:231

White [colour]

Light (How light is produced), L:257

White [entomology]

Butterfly (Sulphurs and whites), B:682 with pictures

White Album, The lessay by Didion Didion, Joan, D:167

White ant

See Termite

White Australia policy, W:232

White, Edward Higgins (American astronaut], W:231

Space exploration (Voskhod and Gemini: The first multiperson space flights), So:148 with picture

White, John Mitchell iprospector Northern Territory (History), N:284

White, John

Lost Colony, L:394

White, Peregrine [American settler],

White, T. H. (British author), W:232 White, E. B. [American author], W:231

White blood cell

AIDS (How AIDS affects the body), A:179; (Diagnosis) A:180 with pic-

Blood, B:394 with picture; (Protecting against disease) B:396 with pictures

Cell (Death of a cell), C:298 Circulatory system (The blood), Cl:7 Disease (General defence reactions),

Gamma globulin, G:26

Human body (The blood), H:357 with picture

Interleukin, E291

Leucocytosis, L:195 Leukaemia, L:195

Tissue transplant (Types of transplants), T:263

Tonsil, T:296

White-breasted trembler [bird] Thrasher, T:228

White-browed wood swallow Wood swallow, W:302

White cabbage Cabbage, C:2

"White Christmas" [song]

Crosby, Bing, Ci:454 White cliffs of Dover

England (Surface features), E:270 with picture

White clover Clover, Ci:114

White cockatoo [bird]

Parrot (Kinds of parrots), P:200 White-collar union Trade unions, T:329

White croaker [fish]

Drum [fish], D:324

White Devil, The [play by Webster] Webster, John, W:128

White dwarf [astronomy]

Astronomy (Stars), A:690

Chandrasekhar, Subrahmanyan, C:342 Magnetism (The magnetism of other

astronomical bodies), M:57

Nova. N:310

Sirius, S:456

Star, So:285; (Star terms) So:280; (The size of stars) So:281

Sun (How long will the sun shine?), So:413

Supernova, So:428

Telescope (Ultraviolet telescopes), T:115

White-eve (bird) See Silvereve

White Goddess, The [book by Graves] Graves, Robert, G:307

White gold

Gold (Jewellery), G:233 Palladium, P:106

Platinum (Production), P:589

White-headed vulture Vulture (Old World vultures), V:429

White Heat [film] Cagney, James, C:15

White Horse Hill

Berkshire (Land regions), B:246

White Horses, W:233 with picture White House [Washington D.C.], W:233 with pictures

Washington, D.C., W:56 with picture

White-lipped peccary Рессату, Р:240

White magic

Magic (Kinds of magic), M:45

White Man, Listen! [book by Wright] Wright, Richard, W:419

White marlin Marlin, M:215

White mice

Pet picture on, P:321

White mineral oil Mineral oil, M:489

White Mountain, Battle of Czech his-

Czech Republic (Habsburg rule), CE520

Czechoslovakia (Habsburg rule),

Cl:523 White Mountains (U.S.A.), W:236 with picture

White mulberry Mulberry, M:689

White mustard Mustard, M:746

White-necked raven

Raven, R:146 White oakum

Oakum, 0:375

White paper [British government reportl, W:236

White paraffin oil Mineral oil, M:489

White Pekin [bird] Duck picture on, D:340

716 White pelican White pelican Pelican, P:247 White pepper Pepper, P:267 White poplar Poplar, P:681 White rat Rat (Rats and people), R:142 with pic-White Sands National Monument [U.S.A.], W:236 White Sea-Baltic Canal Canal (table). C:111 White Sea [Arctic Ocean], W:236 White shark Shark (Kinds of sharks), S:334 White-sided dolphin Dolphin (Other species), D:252; picture on D:251 White-sided Jack rabbit Jack rabbit, J:3 White stork Animal picture on, A:410 White-tailed jack rabbit Jack rabbit, J:3 White-tailed prairie dog Prairie dog, P:738 with picture White walnut See Butternut White whale Whale (Belugas and narwhals), W:207 White willow Willow, W:260 White wine Wine, W:273 White wolf Wolf, W:285 White writing Tobey, Mark, T:272 White, John [Australian writer] Australia, Literature of (Early prose), White, Patrick [Australian writer] Australia, Literature of (Modern novels), A:832 Australia, Literature of (Modern short stories), A:832 Whitebalt [fish], W:237 Whiteface clown Clown, Cl:115 Whitefield, George (English religious leader], W:237 Wesley, John (Leadership of the Methodist societies), W:155 Whitefish, W:237 Whitehall (England), W:237 Whitehead Pimple, P:502 Whitehead [Northern [reland] Ulster picture on, U:16 Whitehead, Alfred North (British mathematician], W:237

Whitehead, John [Australian bu-

Whitelaw, Lord [British political leader].

shranger], W:237

Torpedo (History), T:303

WHO Mathematics (Philosophies of mathe-See World Health Organization matics in the 1900's), M:260 Whole-language philosophy Whitehead, Robert [Scottish engineer] Reading, R:153

Whiteley, Brett [Australian painter], W:238 Whiteley, William [British businessmanl, W:238 Whiteman, Paul [American conductor], W-238 White's thrush Thrush, T:231 Whitewash, W:238 Whitalft, John English religious leaderl, W:238 Whiting Chalk, C:337 Whiting [fish], W:238 Whitiam, Gough [Australian political leader), W:238 with portrait Australia, History of (Politics), A:824; (The dismissal) A:825 Whitley Council, W:238 Whitley, John Henry (British political Whitley Council, W:239 Whitman, Marcus (American pioneerl, W:239 Whitman, Walt iAmerican poetl, W:239 with picture American literature (Individualists), Poetry (Beginnings of modern poetry), P:616 Whitney, Eli [American inventor], W:240 with portrait Cotton (American colonists), Ci:388 Cotton gin, Cl:390 with picture Invention (Why people invent), 1:310 Mass production, M:245 Textile (The Industrial Revolution), T:176 Whitsunday Quarter days, Q:8 Whitsunday Islands Great Barrier Reef (Places to visit), Whitsunday Islands (Australia), W:240 Whitten-Brown, Sir Arthur See Alcock and Brown Whittier, John Greenleaf American poetl, W:240 with portrait American literature (Nonfiction prose), Whittington, Dick (English folk herol, W:241 Whittle, Sir Frank (British inventor), W:241 Invention (The 1900's), 1:319 let propulsion (Development of jet propulsion), J:106 Turbine (History), T:451 Whitworth, Sir Joseph British mechanical engineerl, W:241

W:241 with picture

Whole life insurance

Trade (The use of markets), T:325 Wholistic medicine See Holistic medicine Whooper (bird) See Whooping crane Whooper swan Swan (Kinds), So:456 Whooping cough [disease], W:241 Whooping crane [bird], W:242 Bird (Endangered species), B:357 Who's Afraid of Virginia Woolf? [play by Albeel American literature (Drama), A:321 Why Are We in Vietnam? (book by Mallerl Mailer, Norman, M:69 Why I Am Not a Christian book by Russell Russell, Bertrand, R:461 Whyalla [Australia], W:242 Wicken Fen (England) Cambridgeshire picture on, C:49 Cambridgeshire (Places to visit), C:50 Wicker, W:242 Wicket Cricket (The ground and equipment), Ci:425 Wicket-gate dam Dam (Other types of dams), D:14 Wickford Point [book by Marquand] Marguand, John Phillips, M:216 Wickham, John Clements (British naval officerl, W:242 Wickiup Indian, American (Shelter), I:139 Wicklow (treland), W:243 with pictures and map Arms picture on, A:588 Wicks, Sidney F. iAustralian journalist Rostrum, R:405 Wiclif, John See Wycliffe, John Wide-angle lens Camera (Single-lens reflex camera), C:57 Widgeon See Wigeon Widnes (England) See Cheshire and Halton Widow in the Bye Street, The [work by Masefield) Masefield, John, M:241 **Widowers' Houses** (play by Shaw) Realism (In drama), R:160 Shaw, George Bernard (Early life), Who, The British popular music groupl, S:335 Wien See Vienna Wien, Wilhelm [German physicist] Nobel Prizes (Physics), N:226 Insurance (Main kinds of life insur-

ance), I:272

Wholesale trade

Salesmanship, S:49

Wholesaler

Whole-word identification

Reading (Sight words and look-and-

say instruction), R:154

Trade (The use of markets), T:325

Marketing (Distribution), M:213

Proton, P:818 Science (Using logic), S:141 Wiener

Sausage, S:113

Wiener schnitzel [food] Austria (Way of life), A:859

Wiesbaden [Germany], W:245

Wiesel, Elie (American author), W:245

Wiesenthal, Simon [Austrian public figure], W:245

Wife

Marriage, M:217 with pictures

Wig, W:245

Clothing (The 1600's), Cl:103; (The 1700's) Cl:103 with picture Halrdressing (Ancient times), H:12 with picture; (The 1700's) H:13 with pic-

ture

Wigan (England), W:245 Wigeon (duck), W:245

Wight, Isle of (England), W:245 with

See also list of Related Articles

Arms picture on, A:585

Hampshire, H:33

Wigner, Eugene Paul (American physicist)

Jensen, J. Hans, J:84

Wigtown [Scotland], W:247

Wigwam, W:247

Indian, American (Shelter), I:139 (indian ways of life) I:142

Wilberforce, Samuel British religious leader], W:247

Wilberforce, William (British political leader), W:248

Abolition movement (In Great Britain),
A:13

Wilbye, John (English composer), W:248

Wilcken, Anna Magdalena

Bach, Johann Sebastian (His life), B:16
Wilczek, Frank A. (American physicist)

Wilczek, Frank A. (American physicist)
Gluon, G:216

Wild animal

See Animal; Wildlife conservation
Wild ass

Donkey, D:266

Onager, O:451 with picture

Wild Berries Ipoetry by Yevtushenkol Yevtushenko, Yevgeny, Y:452

Wild boar

See Boar, Wild

Wild carrot (plant), W:248 with picture
Wild Colonial Boy (Australian ballad),
W:248

Donahoe, Jack, D:263

Wild Duck, The |play by lbsen| | lbsen, Henrik (Hls plays), |:4

Wild flower

Flower, F:250 with pictures; (Studying wild flowers) F:265 with pictures

Wild flower garden

Gardening (Kinds of outdoor gardens), G:35

Wild Geese lirish soldiers!, W:248 Wild ginger

Ginger, G:161 Wild goat Goat, G:221; pictures on G:222

Wild horse

Jammu and Kashmir (Plants and animals). 1:26

Wild leek

Ramp, R:132

Wild Notes from the Lyre of a Native

Minstrel (book by Tompson)
Australian, Literature of (The develop-

ment of poetry), A:830

Wild rice, W:248

Wild rose

Eglantine, E:99

Rose, R:397

Wild, Jonathan [English thief], W:248

Wildcat [animal], W:248

See also Bobcat; Serval

Wildcat well

Gas (Exploring for gas), G:51

Petroleum (table), P:336

Weil (Oil and natural-gas wells), W:144

Wilde, Jimmy (Welsh boxerl, W:249

Wilde, Lady Jane Francesca [Irish writer]

Wilde, Sir William Robert Wills, W:249

Wilde, Oscar [British author], W:249
with portrait

Drama (English drama), **D:299** Irish literature (Drama), **1:383**

Opera (Salome), 0:473 Reading (town), R:149

Wilde, Sir William Robert Wills [irish writer], W:249

Wildebeest [animal]

See Gnu

Wilder, Billy (American film director),

Film industry (Best achievement in directing), F:96

Wilder, Laura Ingalis (American author), W:249 with portrait

Wilder, Thornton Niven [American playwright], W:250

American literature (Drama), A:318

Wilderness Road [American history], W:250

Boone, Daniel, B:463

Wildiowl of the British Isles |book by Scott

Scott, Sir Peter, S:174

Wildfowl Trust

Conservation (Europe), Cl:302 Scott, Sir Peter, S:174

Wildlife and Countryside Act [1981] Conservation (Europe), Cl:302

Wildlife conservation, W:250

See also list of Related Articles Biodiversity, **B:299**

Conservation, Ci:292 with pictures India (Conservation), I:71

Trapping (Trapping and wildlife conservation), **T:367**

Zoo, Z:502

Wilhelm I lemperor of Germanyl, W:252 with portrait

Germany (The unification of Germany), G:133 Prussia (German empire), P:823 Wilhelm II [emperor of Germany], W:252

Germany (Foreign policy), G:134; (The Weimar Republic) G:135

Hohenzollern, H:243

World War I (How the conflict spread), W:365; (The fighting ends) W:373 Wilhelm Meister's Apprenticeship

[work by Goethe]
Goethe, Johann Wolfgang von, G:228

Wilhelm Meister's Journeyman Years
[work by Goethe]

Goethe, Johann Wolfgang von, **G:228 Wilhelmina** Iqueen of the Netherlands), **W:253**

Juliana, J:161

Luxembourg (History), L:422

Netherlands (Independence), N:99
Wilkes, Charles (American naval com-

mander! Antarctica (Early exploration), A:442; map on A:444

Exploration (Polar exploration), E:427

Wake Island, W:8

Wilkes, John (British politician), W:253 Wilkins, Maurice (British scientist)

Ceil (The 1900's), C:304

Wilkins, Maurice Hugh Frederick [British biophysicist], W:253

Crick, Francis H. C., Ci:424 Watson, James Dewey, W:101

Wikins, Roy [American public figure], W:253

Wilkins, Sir Hubert [Australian explorer], W:253 with portrait

Wilkinson, John (British inventor) Industrial Revolution (The steam engine), 1:213

Wilkinson, Richard James, W:253

Will [law], W:254 Executor, E:414

Legacy, L:154

Living will, L:339 Probate, P:793

Will-o'-the-wisp, W:254

See also Methane Min min, M:478

Will to power [philosophyl Nietzsche, Friedrich, N:202 Philosophy (Philosophy In the 1800's),

Willard, Archibald M. [American artist]
Spirit of 76, So:231 with picture

Willard, Emma Hart [American educator], W:254 with portrait

Willcocks, Sir David (British organisti, W:254

Willcocks, Sir William (British civil engineer), W:254

Willemstad [Netherlands Antilles], W:254

Willet [bird], W:255

Willett, William (English public figure), W:255

Daylight saving, **D:53**William and the Moon Rocket (book

by Crompton] Crompton, Richmal, Ci:450 William and the Space Animal [book by Crompton] Crompton, Richmal, Cl:450

William [literary figure]

Crompton, Richmal, Ci:450 with pic-

William I [king of the Netherlands], W:256

Netherlands (Independence), N:99 Royal families (Netherlands), R:419

William I [Prince of Orange], W:256

William I, the Conqueror lking of England], W:255 Domesday Book, D:254

England (The Norman Conquest),

Hastings, Battle of, H:75

Norman Conquest, N:243 William II iking of Englandl, W:255 England (Struggles for power), E:275

William III (king of England), W:255 Boyne, Battle of the, B:503 Glorious Revolution, G:211 Ireland (The Williamite War), 1:372 Mary II. M:237

Northern Ireland (Way of life), N:272; (Protestant settlement) N:274 Orangemen, 0:484

William IV (king of England), W:256 William of Germany

See Wilhelm

William of Ockham [English philosopherl. W:256

William of Orange

See William III [king of England]

William of Wykeham (English religious leaderl. W:256 Hampshire, H:33

William Robertson [work by Reynolds] Reynolds, Sir Joshua, R:248

William Tell lopera by Rossinil Rossini, Gioacchino Antonio, R:404

William the Conquerer Domesday Book, D:254 See William I, the Conquerer

William the Lion [king of Scotland] Scotland, History of (The kingdom of Scotland), S:168

William the Silent

See William ! [Prince of Orange]

William, Prince

Royal Family of the United Kingdom (The new Elizabethan Age), R:426; picture on R:425

Williamite War

Ireland, History of, 1:372 Williams-Parry, R. [Welsh poet] Welsh literature (Later literature), W:151

Williams, Betty

Nobel Prizes (table: Nobel Prizes for peace-1976), N:234

Williams, D. J. [Weish writer] Welsh literature (Later literature),

Williams, Daniel Hale (American doctor], W:256

Williams, Edward See Morganwg, Iolo Williams, Emlyn [Welsh actor], W:256 Williams, Eric [West Indian statesman]. W-257

Trinidad and Tobago (History), T:407 Williams, Fred [Australian painter],

Williams, Hank [American singer], W:257

Williams, John [Australian guitarist], W:257

Williams, Ralph Vaughan See Vaughan Williams, Ralph

Williams, Roger (English colonial leader], W:257

Williams, Shirley [British politician], W:257

Social Democratic Party (SDP) (History),

Williams, Tennessee | American playwright), W:258 with portrait Drama (Later United States drama),

Williams, William

Welsh literature (Later literature).

Williams, William Carlos American poetl, W:258

American literature (Modernist poetry), A:317

Williamsburg [U.S.A.], W:258 Williamson, David (Australian play-

wright), W:258

Williamson, Henry British authorl,

Williamson, J. C. [Australian dramatist], W:259

Williamson, Malcolm (Australian composer], W:259

William the Rebel (book by Cromp-

Crompton, Richmal, Ci:450 Willingdon, Marquess of British colo-

nial official), W:259 Willis, Norman David (British trade unionistl. W:259

Willits House

Wright, Frank Lloyd, W:417

Willmot, Eric [Aboriginal educator], W:259

Willow Itreel, W:259 with picture Osier, 0:509

Tree pictures on, T:385

Wicker, W:242

Willow grouse Grouse, G:386

Willow herb

Fireweed, F:140

Willow tit Tit, T:264

Wills, Helen Newington (American tennis player), W:260

Tennis picture on, T:147

Wills, W. J. (British explorer), W:260 Australia, History of (Land exploration),

Exploration (table), E:426; (Crossing Australia) E:426; map on E:425 Willson, T. L. [American chemist]

Calcium carbide, C:23

Willy wagtail [bird], W:260 Wilmington, Earl of (British political leaderl, W:260

Wilmot, John

See Rochester, Earl of

Wilson cloud chamber, W:263 Wilson, Charles McMoran

See Moran, Lord

Wilson, Charles T. R. (British physicist) Wilson cloud chamber, W:263

Wilson, Colin [British author], W:261 Wilson, Edmund [American author],

W:261 Wilson, Harold

See Wilson, Lord

Wilson, John

Scottish literature (1800-1900), S:177 Wilson, John [Irish political leader],

W:261

Wilson, Lord (British political leader), W:260 with portrait

Wilson, Richard (British painter), W:261 with picture and portrait

Wilson, Sir Angus (British author), W:261

Wilson, Woodrow [U.S. president], W:262 with portrait

United States, History of the (Federal legislation), U:255

Wilt, W:263 with picture

Alfalfa (Diseases and pests), A:248 Cotton (Care during growth), Cl:385

Tomato (Growing, harvesting, and processing), T:292

Watermelon, W:99

Wilton (England)

Rugs and carpets, R:450

Wiltshire (Manufacturing), W:265 with picture

Wilton House (England)

Wiltshire (Places to visit), W:265 Wiltshire [England], W:263 with pic-

tures and map See also list of Related Articles

Arms picture on, A:586

Wimbledon (England) London (Recreation), L:369

Merton, M:369

Tennis (Tennis tournaments), T:146; (Beginnings) **T:146**; (table) **T:147** with pictures

Wimborne [England] See East Dorset

Wimple

Clothing (Western Europe), Cl:101 with picture

Wimsey, Lord Peter See Sayers, Dorothy

Winch, W:267

Winchester (England), W:267 Hampshire (History), H:36

Winchester College, W:267 Hampshire, H:33

Winckelmann, Johann Joachim [German archaeologist], W:267

Wind, W:267

See also list of Related Articles Indian Ocean, 1:169 Ocean (Wind-driven circulation), 0:394

Pacific Ocean (Wind belts), P:15 Solar energy (Stored solar energy),

So:23

Weather, W:111

Wind chill, W:269

Wind direction

Wind. W:268

Wind erosion

See Dust storm; Erosion

Wind farm

Solar energy (Stored solar energy),

So:23

Wind farms

Environmental pollution (Scientific efforts), E:306

Wind in the Willows, The book by Grahame)

Grahame, Kenneth, G:285

Wind instrument

Music, M:728 with pictures

Wind speed

Wind, W:268

Wind tunnel, W:269

Aerodynamics picture on, A:71 Aeroplane (Design and testing), A:103 with picture

Streamlining, So:351

Wind turbine

Turbine, T:450 with pictures

Windmill, W:270

Wind vane

Weather vane, W:123 with picture Windermere [lake, England], W:269 England (Rivers and lakes), E:271

Windflower

Anemone, A:363

Windhoek [Namibia], W:270

Windhover

See Kestrel

Winding

Ignition (Parts of an ignition system),

Magnetism (Electromagnets), M:56 with diagram

Windlass, W:270

Machine (Wheel and axie), M:13 with picture

Wheel and axle, W:226

Windmill, W:270 with picture

Electric power (Other sources of electric power), E:159

Solar energy (Stored solar energy), So:23

Turbine (Wind turbine), T:450 with pictures

Window, W:271

Glass, C:189 with picture Stained glass, So:263 with picture Tracery, **T:322**

Window on Russia, A lwork by Wilson Wilson, Edmund, W:261

Windpipe

See Trachea

Windrow

Rake, R:126 with picture

Winds of War, The (book by Would

Wouk, Herman, W:412

Windsor and Maidenhead (England),

W:271

Windsor [Canada], W:271 Windsor [England], W:271

Windsor and Maidenhead, W:271

Windsor [family], W:271

Royal Family of the United Kingdom, R:423

Windsor Castle, W:272 with picture Berkshire picture on, B:246

Royal Family of the United Kingdom (Royal houses), R:425

Windsor, Duke of Edward VIII, E:94

Windsor, Treaty of [1175], W:271

Windsurfing, W:272 with picture Windward Islands, W:272

Saint Lucia (History), S:39 West Indies W:163

Windward [ship]

Peary, Robert Edwin (North Pole journevs), P:237

Wine, W:273 with pictures

Alcoholic beverage, A:238

Antiseptic (History), A:464

France (Agriculture), F:409; picture on

Grape (Kinds of grapes), G:297 South Australia (Agriculture), So:112 with picture

Vikings (The Norwegian Vikings),

V:391

Yeast (How yeast is used), Y:442

Wine raspberry

Raspberry, R:140

Wineland

Vikings (The Norwegian Vikings),

Vinland, V:396

Winemaking

Wine (How wine is made), W:274

Winepress [poetry by Mistral] Mistral, Gabriela, M:516

Winesburg, Ohio [book by Anderson] American literature (Realist fiction),

A:318

Wing [aerodynamics]

Aerodynamics (Lift), A:71 with picture Aeroplane, A:89 with pictures; (Gravity and lift) A:95 with diagram

Animal, A:396; picture on A:398

Bird (In the air), B:341 with pictures Glider, G:207

Helicopter (Lift), H:139 with diagrams

Wing [entomology] Insect, I:250

Wingate, Orde Charles [British generall, W:275 with portrait

Wingate's Raiders [World War II], W:276

Winged Defence [book by Mitchell] Mitchell, Billy, M:516

Winged Victory [sculpture], W:276 Wings of the Dove, The book by [ames]

James, Henry, J:22

Wingti, Palas (prime minister of Papua New Guineal, W:276

Winkelried, Arnold von [Swiss legendary figure], W:276

Winkle, Rip Van

See Rip Van Winkle

Winnebago [tribe]

Indian, American (Indians of the Northeast), I:152

Winnie Mae [aircraft]

Post, Wiley, P:711

Winnie-the Pooh (book by Milne)

Milne, A. A., M:475

Shepard, Ernest, S:353 with picture

Winnipeg (Canada), W:276

Winnowing

Threshing machine, T:230

Winslow Boy, The [play by Rattigan] Rattigan, Sir Terence, R:144

Winslow, Edward [American colonial leaderl, W:276

Winsor, Frederick Albert [German businessman)

Gas (First uses of manufactured gas),

Winstedt, Sir Richard [British colonial administratorl, W:276

Winter annual

Weed (How weeds grow), W:131

Winter [season], W:276

Winter cress

Cress. Cl:422

Winter Games Olympic Games, 0:435

Winter melon

Melon (Types of melon), M:338

Winter oats

Oats (Growing oats), 0:377

Winter of Our Discontent, The book

by Steinbeck

Steinbeck, John, So:312

Winter solstice Solstice, So:33

Winter sports

Biathlon, B:269

Bobsledding, B:416

Curling, Ci:502

Ice hockey, L:9

ice skating, I:13

Iceboating, 1:18

Safety (In winter sports), S:12

Skiing, **S:462**

Tobogganing, T:272

Winter War

Finland (World War II), F:122

Russo-Finnish wars, R:502 Winter, Fred | British steeplechase

jockey], W:277 Winterbioom

See Witch hazel

Wintergreen [plant], W:277 with pic-

Winter's Tale, The Iplay by Shake-

Shakespeare, William, S:321

Theatre pictures on, T:195; T:197;

T:198; T:199 Winthrop, John [American colonial leaderl, W:277

leader), W:277

See World Intellectual Property Orga-

Winthrop, John, Jr. [American colonial

nization Wire, W:277 with pictures See also list of Related Articles Aluminium (Drawing), A:294 Diamond (Industrial uses), D:155 Wire drawing Wire (How wire is made), W:277 with pictures Wire fox terrier [dog], W:278 with pic-Wire gauge Gauge (Other types of gauges), G:63 Wire glass, W:278 Wire rope Rope, R:395 Wire service Journalism (News services), J:150 News service, N:179 Wirehaired pointing griffon idogi, W:279 with picture Wireless See Radio Wireless telegraphy See Radio Wirephoto See Telephoto Wiretapping See Telephone tapping Wireworm, W:279 with picture Potato (Diseases and Insect pests). P:720 Wirral (England), W:279 See also Merseyside Wirral Country Park (England) Merseyside (Places to visit), M:368 Wisbech [England] Cambridgeshire (Places to visit), C:50 Wisconsin, W:279 with pictures and map Wisconsin Dells Dalles, D:11 Wisdom tooth Teeth (Permanent teeth), T:90 Wise Children [book by Carter] Carter, Angela, C:212 Wise, John [American colonial leader], W:280 Wiseman, Nicholas Patrick Stephen Cardinal [trish religious leader]. W:280 Wisley [England] Surrey (Places to visit), So:444 Wistar glass Glass (Types of art glass), G:198 with picture Wisteria (plant), W:280 with picture Humour, H:371 Witan (English history) Witenagemot, W:283 Witch See Witchcraft Witch hazel [tree], W:281 with picture Witch hazel lotion Witch hazel, W:281 Witchcraft, W:281 with pictures Witchetty grub, W:283

Witchweed, W:283

Witenagemot (English history), W:283

With All My Might [book by Caldwell] Caldwell, Erskine, C:33 Withdrawal illness Drug abuse (Effects of drug abuse), Withering, William [British doctor] Digitalis, D:172 Witness [law], W:283 Deposition, D:123 Trial, T:395 Witness for the Prosecution [film] Dietrich, Marlene, D:170 Witoto [tribe] Indian, American (Indians of the Tropical Forests), l:162 Wittgenstein, Ludwig (Austrian philosopher), W:283 Philosophy (Philosophy in the 1900's), P5426 Wittig, Monique (French writer) French literature (Recent French literature), F:450 Witwatersrand (South Africal, W:284 Gauteng, G:64 Gold (World gold fields), G:231 Johannesburg, J:123 with pictures North West (Land), N:264 PWV (Land), P:870 South Africa (The Plateau), So:62 Transvaal (History), T:364 Wizard Witchcraft, W:281 Wizard of Oz, The [film] Garland, Judy, G:45 See also Baum, Frank See World Meteorological Organiza-Woad, W:284 Woburn Abbey See Bedfordshire Wodehouse, P. G. (English writer), W:284 Woden See Odin Woffington, Peg Ilrish actress!, W:284 Wöhler, Friedrich [German chemist]. Aluminium (The first aluminium), A:294 Beryllium, B:261 Chemistry (Development of organic chemistry), C:371 Urea, U:277 Woking [England], W:284 with picture Wokingham [England], W:284 Wolds, W:285 Wolf [animal], W:285 with pictures Animal (Adaptations for sensing the environment), A:401; (Group living) A:410 Maned wolf, M:151 Wolf fish See Wolffish Wolf spider Animal picture on, A:383 Spider, So:220, So:222; (table) So:225; pictures on So:218 Wolf, Friedrich August |German

Homer (Analysts and unitarians), H:254 Wolfe, James [British military leader], W:286 with picture Quebec, Battle of, 0:11 Wolfe, Thomas Clayton [American author], W:287 with portrait American literature (Realist fiction), Wolfe, Tom [American journalist]. W:288 American literature (Fiction and other prose), A:320 Wolfenden Report, The book by Wolfendenl Wolfenden, Lord, W:288 Wolfenden, Lord (British educationalist), W:288 with portrait Wolff, Caspar Friedrich (German scientist Heredity (Early ideas about heredity), H:172 Wolffish, W:288 with picture Fish (picture: Fish of coastal waters), F:161 Wolfhound, W:288 with picture Wolfit, Sir Donald (British actor), W:288 Wolfram von Eschenbach (German poetl, W:288 Wolfram See Tungsten Wolframite [ore], W:289 Tungsten, T:440 Wollaston, William H. [English chemist] Astronomy (The development of spectrai analysis), A:699 Palladium, P:106 Rhodium, R:257 Wollongong (Australia), W:289 with pic-Wollstonecraft, Mary [British author], W:290 with portrait Wolof [people] Mauritania (People), M:268 Woiseley, Colonel Garnet (Canadian military leaderl Red River Rebellion (Riel's flight), R:173 Wolseley, Frederick York [Australian inventor], W:290 Wolsey, Thomas Cardinal (English religious leader], W:290 with picture Cromwell, Thomas, Cl:451 England (The English Reformation), E:277 Henry VIII, H:152 Wolverhampton [England], W:291 Wolverine [animal], W:291 with picture Woman See Human being; Women's movement Woman Is a Woman, A [film] Godard, Jean-Luc, G:225 **Woman of Andros, The** lwork by Wilder Wilder, Thornton Niven, W:250 Woman of No Importance, A lplay by Wildel

scholar

Wilde, Oscar, W:249

Woman praying [sculpture] Sculpture (Aegean), S:195 with picture Woman with Suitcases (sculpture by

Hanson!

Sculpture (Colour), S:192; (The superrealists) S:217 with picture

Woman's Christian Temperance Union (WCTU), W:291

Womb

See Uterus

Wombat (animal), W:291 with picture Wombeyan Caves [Australia], W:292

Women, The [film]

Cukor, George, Cl:488

Women convicts

Convicts in Australia (Convict life), Ci:323 with picture

Women's Action Alliance Steinem, Gloria, So:313

Women's liberation movement

Steinem, Gloria, So:313

Women's movement, W:293 with pic-

See also list of Related Articles

Women's suffrage

See Suffragette

Wonder Book for Boys and Girls, A (book by Hawthorne)

Hawthorne, Nathaniel, H:88

Wonder drug Antibiotic, A:456

Wonder of You, The" [song]

Presley, Elvis, P:770 Wonder, Stevie [American composer],

W:299 with portrait Wonderful Wizard of Oz, The

Baum, L. Frank, B:159

Wonderland (book by Oates) Oates, Joyce Carol, 0:376

Wonders of the world

See Seven Wonders of the Ancient World

Wood Alcohol

See Methanol

Wood anemone (plant), W:301

Wood ant

Ant, A:434

Wood, W:299 with pictures

Energy supply, E:248

Forest (Economic value), F:344

Forest products (table), F:353

Shelter (Building methods and materials), S:350

Termite (Life and habits), T:156

Tree (Wood products), T:373 with pic-

Wood-block print

See Block printing

Wood-burning stove

Heating (Local heating systems), H:128

Wood carving

See Woodcarving

Wood chopping [sport], W:301

Wood duck [bird], W:301

Duck (Food), D:338 with picture

Wood figure

Wood. W:300

Wood louse linsectl, W:301 with pic-

ture

Wood nymph

Butterfly (Satyrs and wood nymphs),

R-683

Wood pewee [bird], W:301

Wood products

Forest products, F:353 with table

Wood pulp

Paper (Raw materials), P:134

Textile (Manufactured fibres), T:170 Timber, T:248

Tree (Wood products), T:373

Wood rat, W:302 with picture

See also Rat

Wood rosin

Rosin, R:402

Wood sorrel See Shamrock

Wood stain

Paint (Industrial paints), P:24

Wood swallow [bird], W:302

Wood tick

See Tick

Wood-turning lathe

Woodworking (Cutting), W:307

Wood warbler

Warbler (New World warblers), W:38

Wood, Grant [American artist], W:300

Wood, Haydn (British composer),

Wood, Jethro [American farmer], W:301

Wood, Matilda Alice Victoria See Lloyd, Marie

Wood, Sir Henry (British conductor), W:300 with portrait

Woodbine

Honeysuckle, H:266

Virginia creeper, V:405 Woodbridge [Australia]

Western Australia (European colonization), W:182 with picture

Woodcarving, W:302 with pictures

See also list of Related Articles

Handicraft picture on, H:49 Sculpture (The first sculptors), S:192; (Japan) S:201 with picture

Woodchuck (animal), W:303 with pic-

Woodcock, W:303 with picture Woodcut, W:304 with picture

See also list of Related Articles

Bewick, Thomas, B:265

Block printing, B:392 with pictures

Dürer, Albrecht, D:352

Hokusai, H:243 with picture Japanese print, J:64 with pictures

Wooden doll

Doll (The 1800's), D:246 with picture

Wooden horse

See Trojan War

Wooden shoe, W:304

Woodfull, (Bill) [Australian cricketer], W:304

Woodhenge

See Stonehenge

Woodland Indians

Indian, American (Indians of the North-

east), 1:153

Woodlark [bird], W:304

Woodlark Islands (Solomon Sea), WATER

Woodlouse

See Wood louse

Woodpecker, W:305 with pictures

Bird (Bills), B:349 with picture; Bird (Building a nest) B:345 with picture: Bird (Legs and feet) B:351 with picture; Bird (Other means of communication) B:343

Woods, Granville T. [American inventor], W:306

Woods, Michael lirish politician], W:306

Woodspring [England], W:306 Woodwind instrument

Music, M:728 with pictures Orchestra (The musicians), 0:488

Woodworking, W:306 with pictures Tool (Woodworking tools), T:296

Woodcarving, W:302 **Woodworking tool**

Tool, **T:296**

Woody grass

Grass (Kinds of grasses), G:304

Woody nightshade

See Bittersweet

Woody stem Perennial, P:279

Woody vine

Vine, V:395

Wool

Weaving (Types of weaves), W:124 Wookey Hole [England], W:310 with picture

Somerset (Places to visit), So:38

Wool, W:310 with pictures

See also list of Related Articles Fibre (Animal fibres), F:67

Goat (Products), G:221; (Size and general appearance) G:222

Polymer, P:661

Rugs and carpets (Materials used in rugs and carpets), R:449

Sheep (Raising sheep), S:340 South Australia (Agriculture), So:112

with picture Squatters in Australia (Growth of the wool industry), So:251 with pic-

ture

Textile (Natural fibres), T:169 Wool (Making yarn), W:311

Wool wax

Lanolin, L:56

Wax (Animal wax), W:106

Woolf, Virginia [British author], W:313 Novel (New directions in the novel),

N:313 Woollen yarn

Wool (Making yarn), W:311

Woolley, Sir Leonard (British archaeologisti, W:313

Woolley, Sir Richard Van Der Riet (British astronomer), W:313

Woolly mammoth

Fossil (Other processes), F:372 with picture

Mammoth, M:138 with picture Woolly monkey [animal], W:313

Work permit

Animal picture on, A:389 Immigration (Immigration policies), West Woolly opossum See Black Muslims World Council of Churches, W:360 Opossum, 0:477 Worker [entomology] Woolsack [House of Lords], W:313 **World Court** Animal (Group living), A:410 See International Court of Justice Woolsthorpe Manor (England) Ant (Castes), A:430 Lincolnshire (Places to visit), L:288 Bee (The honey bee colony), B:185 **World Cup** Woolton, Lord (British government offiwith pictures; (Division of labour) See Football, Association; Skiing cial], W:314 World Enough and Time work by Woolworth Company, F. W. Insect (Family life), 1:256 Warren] Woolworth, W:314 Termite (Life and habits), T:156 with Warren, Robert Penn, W:40 Woolworth, Charles S. (American busipictures World government, W:360 nessmanl Wasp (Group life), W:64 World Health Organization (WHO), Woolworth, W:314 Worker cooperative W:360 Cooperative, Ci:338 Woolworth, Frank Winfield (American AIDS (AIDS around the world), A:181 businessman] Workhouse Medicine (The role of medical organi-Woolworth, W:314 Poor laws, P:671 zations), M:309 Woomera [Australia], W:314 United Kingdom, History of the (Years United Nations table on, U:169 Woomerah of progress), U:145 World Heritage List, W:361 Australian Aborigines (Weapons and Working Bullocks [novel by Pritchard] World Ice Hockey Championships tools), A:836 Australia, Literature of (Modern nov-Ice hockey (History of Ice hockey), 1:12 Wootz steel els), A:832 World Intellectual Property Organi-Iron and steel (History), 1:400 Working class zation (WIPO), W:361 Worcester [England], W:314 with pic-Industrial Revolution (Life during the United Nations table on, U:169 Industrial Revolution), 1:215 World is Made of Glass, The book by Worcester porcelain Social class, So:2 West Porcelain (English porcelain), P:690 World, History of the (The Industrial West, Morris, W:155 Worcester, Battle of Revolution), W:354 World Jewish Congress, W:361 Civil War, English (The Common-Working dog World map wealth), Cl:46 Dog, Guide, D:240 with pictures See World Worcestershire Dog (Working dogs), D:230 with pic-World Meteorological Organization See Hereford and Worcester (WMO), W:361 Word Carved on a Sill, A book by Working in space United Nations table on, U:169 Space exploration, So:138 with pic-World of Charles Dickens, The work Waln, John, W:5 tures by Wilsonl Word game Workplace literacy Wilson, Sir Angus, W:261 Game (Word and picture games), G:24 Reading (The Importance of reading), World of the Thibaults, The book by Word of mouth 此157 Martin du Gardi Public opinion, P:838 Works of John Wesley, The [book] Martin du Gard, Roger, M:232 Word order World of Violence, The book by Wil-Wesley, John (Leadership of the Meth-Grammar, G:287 odist societies). W:155 sonl Word processing, W:314 World affairs Wilson, Colin, W:261 Computer, Cl:252 Communication, Ci:228 **World Organization of the Scout** Typewriter, T:485 World Alliance of Reformed Movement Word processing program Churches Scouting, S:179 Computer, Personal (Uses of a per-World Outside the Window, The Presbyterians, P:763 sonal computer), Ci:268 World and the West, The book by [work by Rexroth] Word recognition strategies Regroth, Kenneth, R:247 Reading (Comprehending what is per-Toynbee, Arnold Joseph, T:322 World population ceived), R:152 World Association of Girl Guides and Population, P:684 Worde, Wynkyn de [English printer] Girl Scouts (WAGGGS) **World Scout Bureau** Riddle, R:272 Girl Guides and Girl Scouts, G:169 Scouting, S:179 Words World Bank, W:360 **World Scout Committee** Basic English, B:132 World Bank, W:360 Scouting, S:179 Dictionary, D:164 See also list of Related Articles **World Scout Conference** Etymology, E:346 Third World, T:220 Scouting, S:179 Language, L:49 United Nations table on, U:169 World Scout Foundation Parts of speech, P:20a World, W:316 with pictures and maps Scouting, S:180 Pronunciation, P:802 See also list of Related Articles **World Tourist Organization** Semantics, S:246 Climate (What the world's climate is Tourism, T:311 Slang, S:478 like), Ci:82 with map World trade Spelling, So:210 Time (World time zones) map on, See also International trade Vocabulary, V:414 T:254 Trade, T:324 World War I, W:362 with pictures and Wordsworth, William (English poet), World Book Encyclopedia W:315 with portrait Blindness picture on, B:389 Work, Wealth and Happiness of Man-Encyclopedia (How a World Book arti-See also list of Related Articles kind, The book by Wells Air force, A:198 with picture cle is prepared), E:237 Army (Armies In the two world wars), Wells, H. G., W:148 World Calendar Work [physics], W:315

Calendar (Calendar reform), C:37

World Community of Islam in the

Austria (Austria-Hungary), A:867

Oxford University picture on, 0:532

Wrestling [sport], W:415 with pictures

Olympic Games table on, 0:441

Turkey (Recreation), T:458

ormation), R:181 Aviation, A:882 with picture lews (The Holocaust), 1:116 Wormwood iplantl, W:411 with picture Churchill, Sir Winston, C:507 Lindberg, Charles Augustus, L:289 Worry Contraband, Ci:317 Mine warfare (History), M:482 See Anxiety Convoy, Ci:327 Montgomery, Bernard Law, M:578 Worship Mussolini, M:746 Glider, G:209 Animal worship, A:418 Great Depression, G:316 with pictures Nuremberg Trials, N:351 Hinduism (Hindu worship), H:212; Okinawa (History), 0:423 Guerrilla warfare (History), G:404 (Hindu reform movements) H:215 Patton, George Smith, Jr., P:218 Hitter, Adolf (Corporal Hitler), H:228 Idolatry, 1:26 Pearl Harbor Naval Base [Hawaii], Hungary (Austria-Hungary), H:382 Judaism, 1:155 P:235 with picture International law, I:292 Protestantism, P:815 Petroleum (Growth of the oil industry), Japan (Imperialism), J:58 Roman Catholic Church, R:336 Mine warfare (History), M:482 Sun (Mythology and sun worship), Paris conferences, P:184 Potsdam Conference, P:721 So:412 with picture Quisling, Vidkun Abraham Lauritz Petroleum (Growth of the oil industry), Sun worship, So:422 [Norwegian traitor], Q:31 Worsted [yarn], W:412 Radar (Advances during World War II), Popular music (The 1900's), P:683 Wool (Making yarn), W:311 R:62 Reims, R:189 Worthing [England], W:412 Rationing, R:144 Rhine River (The Rhine in history), Reims, R:190 Wotan See Odin Rhine River (The Rhine in history), Saint-Germain, Treaty of, S:33 Wouk, Herman [American writer], Submarine (World Wars I and II), R:252 Roosevelt, Franklin Delano (Neutrality W:412 So:372 American literature (Fiction and other Superstition (The role of superstitions), acts), R:389 prose), A:320 Russian literature, R:501 So:430 Wound and the Bow, The work by South Africa, History of, So:84 Thailand, T:184 Stalingrad, Battle of, So:270 Wilson] United Kingdom, Armed services of Wilson, Edmund, W:261 Submarine (World Wars I and II), the (Development of the services), Wound So:372 U:80 First aid (First aid for bleeding), F:421 Tokyo, T:287 Versaliles, Treaty of, V:349 Wound diphtheria [disease] United Kingdom, Armed services of Vimy Ridge, Battle of, V:394 Diphtheria, D:184 the, U:80 War crime, W:35 Woundwort (plant), W:412 United Nations, U:160; (Founding of Warsaw, W:42 Woven fabric the UN) U:173 World, History of the (The World Textile, T:171 with picture Wallenberg, Raoul, W:24 Wars), W:356 Wovoka |American Indian religious War crime, W:35 Yugoslavia (The movement for Slavic leaderl, W:412 Warsaw, W:42 unity), Y:477 Wovuka (American Indian religious Warship (Warships in the two world World War II, W:378 with pictures and leader] wars), W:46 Indian, American (Shamans, priests, Wiesel, Elie, W:245 See also list of Related Articles and prophets), I:148 World, History of the (The World Air force, A:198: World War II A:199 Wozzeck (opera by Berg) Wars), W:356 Army (Armies in the two world wars), Opera, 0:474 Yalta Conference, Y:438 A:595 with picture Wrapping paper World Wide Fund for Nature (WWF), Aviation, A:885 Paperwork, P:138 W:409 Axis, A:893 Wrasse (fish), W:412 with picture World Within a War [work by Read] Berlin, B:253 with picture Wreck Bay [Australia] Read, Sir Herbert, R:149 Car, C:172 Surfing picture on, So:436 World, History of the, W:330 with pic-Censorship (Political censorship), "Wreck of the Deutschland, The" tures C:314 (poem by Hopkins) See also list of Related Articles Churchill, Sir Winston, C:508 Hopkins, Gerard Manley, H:276 World's fair, W:410 Civil defence, Ci:39 Wrecker, The (book by Stevenson) Worlebury [England] Communism. Cl:241 with picture Stevenson, Robert Louis (Stevenson's Avon (Places to visit), A:892 Concentration camp, Ci:272 writings), So:322 WORM Contraband, Ci:317 Wrekin, The [England], W:412 Optical disc, 0:479 Convoy, Ci:327 Shropshire (Places to visit), S:403 Worm [animal], W:410 with pictures Dresden, D:306 Wren [bird], W:412 with pictures See also list of Related Articles Dunkerque, D:350 with picture See also Rifleman Worm gear Film industry, F:103 Wren, Sir Christopher English archi-Gear (Types of gears), G:68 Glider, G:209 tecti, W:414 with pictures Worms [disorder] Guerrilla warfare (History), G:404 Architecture (Baroque architecture), Cat (Veterinary care), C:253 Hamburg (The city today), H:27 A:528 with picture Disease (Other infectious diseases), Hirohito, H:221 Drury Lane, D:325 D:191 Hiroshima, **H:222** England (The arts), E:269 Dog (Medical care), D:238 Hitler, Adolf, H:227; (The road to war) London (Churches), L:370; picture on Goat (Disease), G:223 Worms [Germany], W:411 Holocaust, H:249 with picture

Worms, Edict of, W:411

L:419

Luther, Martin (Reformation leader),

Reformation (Development of the Ref-

Home Guard, H:253

International law (History), 1:292

Invention (Military needs), 1:310

Indochina, I:181

Wrexham Maelor (Wales), W:416 Wriggler [entomology]

Insect (Growth and development),

Wright brothers (American inventors), W:419 with picture and portraits Aerodynamics (Ploneers of aerody-

namics), A:73

Aeroplane, A:78 with picture Aviation (Beginnings), A:882; (The first airlines) A:883

Glider (Early days), G:208 with picture Invention (Technical capacity), I:313; (The 1900's) I:318

Wright, Judith [Australian writer]
Australia, Literature of (Modern short stories), A:832

Wright, Billy English football player, W:416

Wright, Frances [American social reformer], W:417 with portrait

Wright, Frank Lloyd [American architect], W:417 with pictures Architecture, A:535 with picture

Wright, Judith (Australian poet), W:418
with portrait

Wright, Orville
See Wright brothers

Wright, Richard [American writer], W:419

American literature (Realist fiction), A:318

Wright, Sir Almroth (British doctor), W:416

Wrlght, Wilbur [American inventor]
See Wright brothers

Wrightson, Patricia (Australian writer), W:420

Wringer machine

Washing machine, W:51

Wrist lanatomyl, W:420 with picture Carpal tunnel syndrome, C:208 with diagram

Hand (Parts of the hand), H:39

Wristwatch See Watch

Writ [law], W:421

See also list of Related Articles

Writ of error Writ, W:421

Writ of habeas corpus

Writ, W:421
Writ of replevin

Writ, W:421
Writ of Summons

Peer of the realm (Peeresses), P:244

Write Me in [book by Gregory]

Gregory, Dick, G:366

Writer's and Artist's Yearbook
Writing (Freelance markets), W:422
Writing [career], W:421

Writing [communication], W:423

See also list of Related Articles

Alphabet, A:282
Communications (Prehistoric times),

Ci:229 Education (The beginning of formal

education), **E:89** History (The development of historical writing), H:225

Indian, American (Writing), I:149

Writing and Illuminating, and Lettering [book by Johnston] Johnston, Edward, J:135

Writing ink

Ink, 1:235

Writing on the wall

Handwriting on the wall, H:54

Writings, The

Old Testament, 0:427

Wrocław (Poland), W:424 with picture Wrong Box, The Ibook by Stevenson! Stevenson, Robert Louis (Stevenson's writings), So:322

Wrought iron

Iron and steel (Making iron products),
1:391

Wryneck [bird], W:424 with picture Wu Daozi [Chinese painter], W:424 Wu Tao-tzu

See Wu Daozi

Wuchang

See Wuhan

Wuhan [China], W:424 Wulfenite

Mineral picture on, M:485

Wundt, Wilhelm [German philosopher], W:424

Psychology (Psychology becomes a science), P:829

Science (Scientific advances of the 1800's), S:148

Wushu (martial art)

Asian Games, A:665

Wyangala Dam (Australia), W:424 Wyatt, Benjamin

Drury Lane, D:326

Wyatt, James [English architect], W:424
Wyatt, John [British inventor]

Industrial Revolution (Spinning machines), **1:213**

Wyatt, Sir Thomas (English poet), W:424

Surrey, Earl of, So:445 Wychavon (England), W:425 Wycherley, William (English play-

wright), W:425 Drama (European drama: 1660-1800),

D:294

Wycliffe, John (English religious reformer), W:425

Reformation (Religious causes), R:181 Wycombe (England), W:425

Wye (river, England and Wales), W:425
Wye Valley

Gwent (Places to visit), G:437

Wyeth, Andrew [American painter], W:425 with picture

Painting, P:87; picture on P:43

Wyler, William (American film director), W:426

Film industry (Best achievement in directing), F:96

Wylie (Australian explorer), W:426 Wyndham, John (British science-fiction writer), W:426

Wynne, Arthur [American inventor] Crossword puzzle, Ci:456 Wynne, Ellis [Welsh writer]
Welsh literature (Later literature),
W:151

Wyoming (U.S.A.], W:426 with picture Yellowstone National Park, Y:445 with pictures

Wyoming Valley Massacre, W:427

Wyre (England), W:427 Wyre Forest (England), W:427

Wyss, Johann David [Swiss author] Wyss family, W:427

Wyss, Johann Emmanuel [Swiss author]

Wyss family, W:427

Wyss, Johann Rudolf (Swiss author) Wyss family, W:427

Wyss family [Swiss authors], W:427 Switzerland (Arts), So:495

Wyszyński, Stefan Cardinal [Polish religious leader], W:427 with portrait Poland (Communist rule), P:633



X [letter], X:428

x-axis

Geometry (Analytic geometry), G:97

X chromosome

Heredity (How a person's sex is determined), **H:167** with diagrams

X-ray crystallography

Hodgkin, Dorothy Crowfoot, H:240

X-ray diffraction [physics] Biophysics, B:313

Diffraction (Uses of diffraction), D:171
Molecule (Studying molecules), M:534
with pictures

X-ray fish, X:429 X-ray telescope

Telescope, T:115

X rays, X:429 with pictures See also list of Related Articles

Electromagnetic waves (Uses of electromagnetic waves), E:176 with diagram

Invention (The late 1800's), 1:318 Light (Electromagnetic waves), 1:259 Magnetic storm, M:53

Medicine (Diagnosis), M:307 with ploture; (The medical revolution)

ture; (The medical revolution)
M:317
Moseley, Henry Gwyn-Jeffreys, M:631

Radiology, R:91 with picture
Roentgen, Wilhelm Conrad, R:331
Teeth (Dental checkups), T:93

Xavier, Saint Francis, X:432

Goa (History), **G:220** Japan (Foreign relations), **J:56**

Xe (symbol) Xenon, X:432

Xenon (element), X:432

Xenophon [Greek soldier], X:433 Xerography

Photocopying (Electrostatic photo-

copying), P:434

Xerophthalmia Blindness, B:389

Xerox Corporation, X:433

Xerxes I [king of Persia], X:433 with picture

Dardanelles, D:33

Persia, Ancient (History), P:295

Thermopylae, T:217

Xhosa [people], X:433 with picture Cape Province (History), C:137

Eastern Cape (History), E:46

Port Elizabeth, P:693

South Africa (People), So:58; (Blacks) So:60

South Africa, History of (White expansion), So:77; (British military occupation) So:78

Transkei (People), T:341

Zulu, Z:509

XI Jiang [China], X:434

Xlamen (Chinal, X:434

Xinjiang [China], X:434

Asia (Life of the people), A:643

Xmas

See Christmas

Xóloti [Aztec god]

Sculpture, S:186; picture on S:186

X-ray tube

Electronics (Electron tubes), E:187 Xunzi [Chinese philosopher], X:435

Confucianism (Early Confucianism), Cl:278

XVI Revelations of Divine Love book

by Julian of Norwichl

Julian of Norwich, J:161

Xylem [botany]

Leaf (Water), L:130

Root (The core), R:393

Tissue (Plant tissue), T:263

Tree (Trunk and branches), T:377 with diagram

Xylene

Hydrocarbon (Aromatics), H:401

Petrochemicals, P:328

Xylophone (percussion instrument), X:435 with pictures

Music (Percussion instruments), M:729

XYZ Affair, X:435

United States, History of the (Foreign affairs), U:243



Y [letter], Y:436

Yaxis

Geometry (Analytic geometry), G:97

^Y chromosome

Heredity (How a person's sex is determined), H:167 with diagrams

Yabby [fish], Y:437

Yablunovyy Mountains [Siberial, Y:437

Yacht [boat], Y:437

Sailing, **S:22** with pictures

Yachting

America's Cup, A:331

Olympic Games table on, 0:441

YAG crystal

See Yttrium aluminium garnet crystal

Yahrzeit

Judaism (Special occasions), J:157

Yahweh [Hebrew god]

God, G:224

Jehovah, J:81

Yahya Khan, Agha Muhammad [president of Pakistanl, Y:437

Bangladesh (East Pakistan), B:88

Pakistan (Civil war), P:99

Yajur Veda (Indian sacred text)

India, Literature of (The Vedas), 1:124 Yajurveda [Indian sacred texts]

Sanskrit literature, S:75

Yak [animal], Y:437 with picture

Animal picture on, A:383

Jammu and Kashmir (Plants and animals), J:26

Yakitori [food]

Japan (Food and drink), J:42

Yaksa [people]

Sri Lanka (History), So:258

Yakubovsky, Ivan Ignatievich (Soviet political leaderl, Y:437

Yale University, Y:438

Yale, Elihu (English merchant), Y:437 with portrait

Yale, Linus, Jr. [American inventor], Y:438

See also Lock

Yalta [Ukraine], Y:438

Yalta Conference, Y:438

Roosevelt, Franklin Delano, R:390 World War II (The strategy), W:388

Yalu River [Manchuria], Y:438

Korea (The Northern Mountains), K-182/6

Yam beaл

Jicama, J:118

Yam [plant], Y:438 with picture

Papua New Guinea (Way of life), P:142

Yamamoto, Isoroku (Japanese naval commanderl, Y:439

Yamashita, Tomoyuki (Japanese gen-

erall, Y:439 Yamato period [Japanese history],

Y:439

Japan (Early days), J:55

Yandabo, Treaty of [1826]

Assam (History), A:670

Yang, Chen Ning [Chinese-born physicist]. Y:439

Yangcheng

See Guangzhou

Yangon

See Rangoon

Yangtze River [China], Y:439 with picture

Yangtze Valley

Asia (Communication), A:657

China (The Eastern Lowlands), C:450 River (table), R:290

Yankee, Y:439

Yankee Doodle [song], Y:440

Yankee Doodle Dandy [film]

Cagney, James, C:15

Yankee in Canada, A book by Tho-

reau]

Thoreau, Henry David, T:225

Yao Wenyuan [Chinese political leader] Jiang Qing, J:117

Yaoundé [Cameroon], Y:440

Cameroon picture on, C:60

Yap Ah Loy [Chinese immigrant to Malaya], Y:440

Yap Islands [Pacific Ocean], Y:440 Caroline Islands, C:206

Yapok

Opossum, 0:477

Yagona [drink]

Fiji (Population and ancestry), F:76

Yard lunit of measurel, Y:441

Yarmouth

See Great Yarmouth; Wight, Isle of

Yarmulka

See Judaism

Yarn [thread]

Textile (Making the yarn), T:172 with picture

Thread, T:228

Wool (Making yarn), W:311

Worsted, W:412

Yarn dyeing

Dye (Dyeing textile materials), D:362

Wool (Making yarn), W:311

Yarra [river, Australia], Y:441

Varra [ship], Y:441

Yarralumia [Australia], Y:441

Yasnaya Polyana (journal)

Tolstoy, Leo (Early life and works), T:289

Yasunari Kawabata IJapanese authorl Japanese literature (The modern period), J:64

Vaw

Aeroplane (Flying an aeroplane; diagram), A:99

Yawata [japan], Y:441

Yawning, Y:441

Yaws (disease), Y:441

Yayol [people]

Japan (Ancestry), J:39

Yb [symbol]

Ytterbium, Y:468

Yeager, Charles Elwood (American

pilot), Y:441

Sonic boom, So:42 Test pilot (Experimental test pilots),

T:161 Year Itimel, Y:441

Earth (How the earth moves), E:18 with diagram

Hipparchus, H:217

Leap year, L:136

Time (Measuring time), T:256

Year of confusion

Calendar (The Julian calendar), C:36

Year of Living Dangerously, The [work by Williamson]

Williamson, David, W:258 Year of the dragon

Calendar (The Chinese calendar), C:35

Yeardley, Sir George (American colonial leader] House of Burgesses, H:327

Yearling, The [book by Rawlings]

Yellowroot

See Goldenseal

Rawlings, Marjorie Kinnan, R:147 Yellows E:98 Years, The [book by Woolf] Jaundice, J:67 Yolk [wool] Woolf, Virginia, W:313 Yellowstone National Park [U.S.A.], Wool (Types of wool), W:310 Years with Ross, The [work by Y:445 with pictures and map Yom Kippur, Y:456 Animal (Protected areas), A:413 Feasts and festivals (In Judaism), F:39 Thurberl Thurber, James, T:233 Gevser, G:145 Judaism (Holy days and festivals), 1:156 Yeast, Y:442 with pictures Yellowstone River, Y:447 York [England], Y:456 Bread (Kinds of bread), B:547; (How Yellowthroat [bird], Y:447 with picture York [English history], Y:456 yeast bread is made) B:548 Yellowwood [tree], Y:447 Edward IV, E:94 Fermentation, F:54 Yeltsin, Boris Nikolayevich (Russian England (The Wars of the Roses), Fungi (How a fungus lives), F:485 political leaderl, Y:447 with portrait E:277 Wine (Fermentation), W:275 Henry VI, H:152 Amnesty, A:337 Yeast infection [disorder] Bush, George (Foreign affairs), B:669 Plantagenet, P:573 AIDS (Opportunistic illnesses), A:179 Disarmament (History), D:186 Wars of the Roses, W:41 Yeast book by Kingsleyl President (History), P:769 York, Alvin Cullum [American soldier]. Kingsley, Charles, K:282 Russia (National government), R:465; Y:456 with portrait Yeats, Jack Butler [Irish painter], Y:443 (The breakup of the U.S.S.R.) R:492 York, Duke of with picture with picture Elizabeth II (The royal family), E:214 Yeats, John Butler [irish painter], Y:443 Yemen, Y:447 with pictures and map Yorke Peninsula [Australia], Y:456 Yeats, William Butler [irish poet], Flag picture on, F:207 Yorke, Henry Vincent Y:444 with portrait See also Aden; Sana See Green, Henry Ireland (Arts), 1:356 Yemmerrawannie (Aborigine) Yorkshire [England], Y:457 with pic-Irish literature (The Irish literary revi-Phillip, Arthur (Aborigines), P:418 tures and map Yen [money], Y:451 with pictures val), I:383 See also list of Related Articles Yenisey River (Siberia), Y:451 Arms picture on, A:586 Pound, Ezra Loomis, P:728 Yegorov, Boris (Russian astronaut) Yeoman, Y:451 Yorkshire pudding ifoodl Yeomen of the Guard, The lopera by Space exploration (Voskhod and Gem-England (Food and drink), E:267 ini: The first multiperson space Gilbert and Sullivani Yorkshire terrier, Y:461 picture on flights), So:148 Gilbert and Sullivan, G:158 D:234 Yekaterinburg [Russia], Y:444 Yeomen of the Guard, Y:451 Yorktown, Battle of Yellow Yeovil American Revolution, A:328 See Colour South Somerset, So:119 Yoruba (people), Y:461 Yellow fever [disease]. Y:444 Yerevan [city, Armenia], Y:452 God (Gods of nature), G:225 See also list of Related Articles Armenia, A:578 Ife, 1:27 Cuba (United States control), Ci:480 Yerkes Observatory, Y:452 Nigeria (Population and ancestry), Mosquito, M:633 Yerkes, Robert Mearns [American psy-N:207; (The arts) N:210 Reed, Walter, R:178 Sculpture (Personal sculpture), S:203 chologistl, Y:452 **Yellow Hat** Yeti Tribe, T:398 Tibet (Religion and culture), T:237 Yosemite National Park, Y:461 See Abominable Snowman Yellow-headed solenodon Yevtushenko, Yevgeny (Russian poet), California (Land), C:38 with picture Solenodon, So:29 Yosemite Valley "Yellow Kid" Yew [tree], Y:452 with picture Yosemite National Park, Y:461 Outcault, Richard Felton, 0:523 with Yi dynasty (Korean history) Yoshida Kenko (Japanese author) pictures Japanese literature (The medleval pe-Korea, K:328 Yellow Monday [insect] Seoul (History), S:260 riod), J:64 Cicada, Cl:1 You Can't Go Home Again book by Yi Songgye [Korean general] Yellow perch Seoul (History), S:260 Wolfe] Perch. P:279 Wolfe, Thomas Clayton, W:287 Ylddish language and literature. Yellow puccoon Young, Andrew Jackson, Jr. [U.S. dip-Y:453 See Goldenseal Yijing lomatl, Y:462 with portrait **Yellow River** Young, Baroness (British politician), See I Ching See Huang He Yin and yang Y:462 Yellow Sea, Y:445 with picture Young, Brigham [American religious Acupuncture, A:28 Yellow-throated marten Medicine (History), M:313 leaderl, Y:462 with portrait Marten, M:230 Mormons (The Mormons in Utah), **YMCA** Yellow-throated vireo See Young Men's Christian Associa-M:610 Vireo, V:401 with picture Young, Cy | American baseball playerl, Yeliow wagtali Ynys Môn-Isle of Anglesey, Y:453 Y:463 Young, Edward [English poet], Y:463 Wagtail, W:5 Yo-Yo, Y:453 Yellow warbler Young, Francis Brett English author, Yoga, Y:453 with picture Warbler (New World warbler), W:38 Hinduism (Reincarnation), H:210; (The Yellowcake Young, Geoffrey Winthrop [English six schools of philosophy) H:210 Uranium (Refining and processing ura-India, Philosophy of, L:134 mountaineerl, Y:463 Young, John W. American astronaut nium ore), U:274 with picture Yoghurt, Y:454 Space exploration (Voskhod and Gent-Yellowhammer [bird], Y:445 with pic-Yogyakarta [Java], Y:454 with picture ini: The first multiperson space See also Java flights), So:148; (Other moon land-Yellowlegs [bird], Y:445 with picture

Yokohama [japan], Y:455

Egg, E:98 with diagram; (Uses of eggs)

Yolk [egg]

ings) So:153; (The shuttle era be-

gins) So:158; picture on So:128

Young, John Watts [American astronautl, Y:463 Moon picture on, M:596

Young, Lester Willis [American jazz

musician), Y:464

lazz (Cool jazz), J:77

Young, Thomas [English physicist] Colour (The three-component theory), Ci:201

Young James [English chemist], Y:463 Young Drift Plains [towal, 1:328

Young Ireland [political movement], Y:464 Dillon, John Blake, D:173

Ireland, History of (The Young Irelanders), 1:375

Young Men's Christian Association (YMCA) with picture, Y:464

Young Pretender See Jacobite rising

Young Shoulders [book by Wain] Wain, John, W:5

Young Turks [political group] Armenia (History), A:581

Young Women's Christian Association (YWCA), Y:465 with picture

Younger, George [British politician], Y:465

Younghusband, Sir Francis (British army officer], Y:465

You're a Big Boy Now [film] Coppola, Francis Ford, Ci:345

Youth |book by Tolstoy| Tolstoy, Leo (Early life and works),

Youth club, Y:466 with picture

See also list of Related Articles

Youth detention centre Reformatory, R:183

Youth hostel, Y:466 with picture Youth orchestra

Orchestra picture on, 0:487

Youth organization Youth service, Y:467

Youth service, Y:467 with pictures See also list of Related Articles

Ypres [Belgium], Y:468 Ypres, Earl of

See French, John Denton Pinkstone Ytterblum [element], Y:468

Yttrium aluminium garnet crystal

Laser (Solid-state lasers), L:73 Yttrium [element], Y:469

Yuan dynasty

Beijing (History), B:205 China (Mongol rule), C:460 Kublai Khan, K:339

Mongol Empire (Kublai Khan), M:558 World, History of the (China), W:345

Yuan Shikai [Chinese political leader] China (The early republic), C:461 Sun Yat-sen (The Kuomintang Party), So:422

Yucatán Peninsula, Y:469 with maps Mexico, M:412

Yucatecos [people] Yucatán Peninsula, Y:469

Yucca [plant], Y:469 Yugoslavia, Y:470 with pictures and map

See also list of Related Articles Aviation (Aircraft nationality marks),

Bosnia-Herzegovina (History), B:475

Croatia, Ci:444

Flag picture on, F:209 Macedonia (History), M:10

Montenegro, M:575; (History) M:575

Serbia, S:266

Tito, Josip Broz, T:267

United Nations (The Yugoslav conflicts), Y:179

Yukawa, Hideki [Japanese physicist],

Y:476 Yukio Mishima ijapanese authori

Japanese literature (The modern period), J:64

Yukon River, Y:476 with picture Yukon Territory, Y:476 with pictures

and maps Canada (The territories), C:76

Yule Christmasl, Y:478

Yura [irrigation]

Jammu and Kashmir (Agriculture), J:25

Yurt [tent] Asia (Life of the people), A:643 Kazakhstan (People), K:204

Kyrgyzstan (People), K:348 Mongol Empire, M:557 with pictures

Mongolia (People), M:560 with picture Turkmenistan (People), T:466

Yusof bin Ishak (Malay leader), Y:478

See Young Women's Christian Association



Z [letter], Z:479

Z particle

CERN, C:329

Physics (Physics today), P:478

Za'ba [Malay scholar], Z:480

Zafy, Albert [Madagascan ruler], M:27

Zagreb (Croatia), Z:480

Croatia, Ci:444 with picture

Zagros Mountains

Iran (The mountains), I:336 Iraq (The mountains), I:344

Zagwé dynasty Ethiopia, E:340

Zaharias, Babe Didrikson (American athletel, Z:480 with portrait

Zaire, Z:480 with pictures and maps See also list of Related Articles Aviation (Aircraft nationality marks),

A:881

Zaire River

Congo River, Ci:281 with map

Zalcitabine [drug]

AIDS (Treatments), A:180

Zama, Battle of

Army (Famous land battles), A:593 Scipio Africanus, Publius Cornellus, \$453

Zambezi River, Z:487

River (table), R:290

Stanley and Livingstone (Livingstone's discoveries), So:277 with map

Zambia, Z:487 with pictures and map Lusaka, L:417

Rhodesia and Nyasaland, Federation of, R:256

Zimbabwe (History), Z:496 Zamboanga [Philippines], Z:489

Colombia (Ancestry), Ci:169

Zamindar [tax collector]

Bihar (History), B:289

Zander [fish], Z:489 Zanzibar (city), Z:489

Zanzibar (island, Tanzania), Z:489

Tanzania (The coastal lowlands and islands), T:34 with map; (Foreign trade) T:35; (The development of trade) T:35

Zapata, Emiliano [Mexican revolutionary leaderl, Z:489

Zápotocký, Antonín [Czech politician] Czechoslovakia (Communist rule), Ci:524

Zaragoza [Spain]

See Saragossa

Zarathustra

See Zoroastrianism

Zeami Motokiyo (Japanese playwright) Japanese literature (The medieval period), J:64

Zebra, Z:489 with picture

Zebra mussel

Animal (Introduction of new species),

Zebu

Cattle (Beef cattle), C:272

Zebulun, Z:490

Zechariah, Book of [Old Testament],

Zeeman effect, Z:490

Lorenz, Hendrik Antoon, L:385 Zeeman, Pieter, Z:490

Zeeman, Pleter [Dutch physicist], Z:490

Lorenz, Hendrik Antoon, L:385 Nobel Prizes (Physics), N:226

Zeeman effect, Z:490

Zemi [ido]]

Indian, American (Indians of the Caribbean), 1:161

Zen [religion], Z:490

Asia (Life in Japan), A:640 Buddhism (Other schools of Buddhism), B:618

Zenger, John Peter (American public

figurel, Z:490 Zenith [astronomy], Z:491

Zennor (England)

Cornwall (Places to visit), Cl:360

Zeno of Citium [Greek philosopher], Z:491

Cynic philosophy, Ci:512

Philosophy (Stoic philosophy and Epicureanism), P:424

Stoic philosophy, So:333 Zeno of Elea [Greek philosopher], Z:491

Ziegfeld, Florenz [American theatre

ture), A:517 with picture

World, History of the (The Tigris-

Euphrates Valley), W:332

Zimbabwe African National Union-

Architecture (Mesopotamian architec-

producer), Z:493

Ziggurat

Zeolite Patriotic Front (ZANU-PF) Zoom lens Camera (Single-lens reflex camera), Water softening, W:92 Zimbabwe (History), Z:496 Zephaniah, Book of [Old Testament], Zimbabwe, Z:493 with pictures and Television (The cameras), T:124 Zeppelin See also list of Related Articles Zooplankton Airship (The Zeppelins), A:219 Flag picture on, F:202 Darter, D:37 Environmental pollution (Water pollu-World War I (The war in the air), Guerrilla warfare (History), G:404 Harare, H:57 tion), E:303 Zeppelin, Ferdinand von iGerman in-Mozambique (History), M:680 Ocean. 0:391 ventor], **Z:491** United Nations (Problems in southern Plankton, P:539 Zernike, Frits [Dutch scientist] Africa), U:178 Zooxanthella [plant] Great Barrier Reef (Marine life), G:313 Optics (History), 0:480 Zambia (History), Z:488 Zero [mathematics], Z:491 Zinc [element], Z:498 Zorl [clothing] Arabic numerals, A:488 Zinjanthropus [anthropology], Z:498 Japan (Clothing), J:42 Decimal system (Invention of the deci-Leakey family (Mary Douglas Leakey), Zorn, Anders (Swedish painter) mai system), D:71 Sweden picture on, So:467 Multiplication (Multiplication facts), Zinnemann, Fred (Austrian-born film Zoroaster (Persian religious leader) M:694; (Multiplying by zero) director], Z:499 Mithra, M:519 M:697 Zinnia (plant), Z:499 with picture Parsees. P:202 Numeration systems (The Hindu-Zion, Z:499 Persia, Ancient (Religion), P:293 Arabic numeral system), N:349 Jerusalem (Roman rule), J:93 Zoroastrianism, Z:507 Zero gravity Zionism, Z:499 Zoroastrianism [religion], Z:507 Space exploration (Microgravity), Jerusalem (British rule), J:93 Persia, Ancient (Religion), P:293 So:135; picture on So:136 Jews (The Zionist movement), J:115; Zorrilla, José (Spanish dramatist) Zero-tillage picture on J:116 Don Juan, D:263 Conservation (Soil conservation), Nationalism (Different forms of nation-Zorro [book by Gregory] Ci:293 alism), N:44 Gregory, Dick, G:366 Zero, Absolute Palestine (The Zionist movement), Zouaves [French army], Z:508 Absolute zero, A:16 P:103 Zr [symbol] **Zetland** Zip [fastener], Z:500 Zirconium, Z:500 See Shetland Zip code Zubir, Said (Indonesian musician), Zeus [Greek mythology], Z:492 Post office (Sorting), P:712 7:50R lo, 1:324 with picture Zircalov [allov] Zucchini Persephone, P:291 Zirconium, Z:500 See Courgette Sculpture (As a record of history), Zircon [mineral], Z:500 Zuckerman Bound (book by Roth) S:186 with picture; (Kinds of Zirconium [element], Z:500 Roth, Philip, R:407 sculpture) S:190 Zither imusical instrumentl, Z:500 with Zuckerman, Lord (British scientist), Titans, T:265 picture Z:508 Zhang Chunqiao [Chinese politician] Zuid Afrikaansche Republiek (ZAR) Music (Plucked stringed instruments). Jiang Qing, J:117 M:728 with pictures Anglo-Boer Wars (The Second Anglo-Zhao Ziyang (Chinese political leader). Zn [symbol] Boer War), A:369 with map Z:492 with portrait Zinc, Z:498 Zuider Zee Zhou dynasty, Z:492 Zodiac (astrology), Z:500 with pictures Netherlands, N:88 Zhou Enlai [Chinese statesman], Z:492 Zukerman, Pinchas [Israeli-born violin-Astrology, A:680 with portrait Horoscope (Parts of a horoscope), istl. Z:509 China (The beginning of Communist H:284 Zulhijjah [month] rule), C:463 Calendar (The Islamic calendar), C:35 Zodiacal light, Z:500 with picture Zhu De [Chinese political leader], Z:492 Zoffany, Johann [German-born artist], Zulkadah (month) Zhu Kezhen (Chinese scientist), Z:493 Calendar (The Islamic calendar), C:35 Z:500 Zhu XI [Chinese philosopher] Zog I, King Zulu [people], Z:509 Confucianism (Later Confucianism), Albania (History), A:230 Bantu, **B:98** South Africa (People), So:58; (Blacks) Ci:278 Zola, Émile (French author), Z:500 Zhuangzi [Chinese philosopher], Z:493 French literature (Naturalism), F:449 So:60 Zhukov, Georgi Konstantinovich Novel (France), N:312 Russian army officerl, Z:493 Zone melting, Z:501 Natal), So:79 Zia ul Haq, Mohammad [Pakistani gen-Zoning laws Xhosa, X:434 eral], Z:493 Town planning (Governmental author-**7**ululand Zidovudine [drug] ity), T:316 Kwazulu-Natal, K:346 See AZT Zonta International [organization], Mfecane, M:431 Ziegfeld Follies 7:502 Ziegfeld, Florenz, Z:493

South Africa, History of (Settlement of South Africa, History of (Annexation of Zoo, Z:502 with pictures Black kingdoms), So:82 Zunz, Leopold Ijewish scholar), Z:509 Zoogeography Zurayk, Constantine Kaisar Arab Geography (Divisions of geography), G:88 scholarl, Z:509 Zurbarán, Francisco (Spanish painter), Zoological garden See Zoo Zurich [Switzerland], Z:509 with picture Zoology, Z:506 Switzerland, So:491; picture on Biology (table), B:305 Science (The life sciences), S:140 So:495

7urkhaneh

iran (Recreation), 1:334 with picture Zweig, George [American physicist] Quark, Q:7

Zweig, Stefan [Austrian writer], Z:510 Zwelethini, Goodwill [Zulu leader] Royal families (Africa), R:422

Zwingli, Huldreich (Swiss religious

leaderl, Z:510

Reformation (Zwingli and the Anabaptists), R:182

Switzerland (Religious civil wars), So:501

Zworykin, Vladimir Kosma (Russianborn physicist), Z:510

Communication (The development of

modern communications), Cl:234
Television (Early development), T:133
Zygote

Embryology, E:228

Moss (How mosses live), M:637 Multiple birth (How multiple births

оссиг), М:693

Reproduction (Fertilization), R:225



World Book Picture Credits

page numbers appear in bold type. Credited illustrations are numbered by order of appearance in each column, left to right, top to bottom. All uncredited illustrations are reproduced by permission of WORLD BOOK INC.

If a picture credit is not listed below, it will appear on the page beside the picture itself.

peture usen.

2 1) Norman Meyers, Bruce Coleman. 2) Tom McHugh, Photo Researchers. 4. 1 Heather Angel. 2) Fergus Bourke. 10. 1) J. Allan Cash Photolibrary, 11, 3) ZEFA, 12, 1) Hutchison Library. 18. 3) Eric Crichton, Bruce Coleman. 19. 1) Barbara Van Cleve. 20. 1) David R. Frazier. 23. 1) Miriam Berkley/Camera Press. 26. 1) Art Resource. 28. 1) Paul Biddle & Tim Malyon/Science Photo Library, 2) National Portrait Gallery, 29. 1) Derbyshire Countryside. 2) Courtauld institute, 30, 1) Ansel Adams, 31, 1) Oil painting on canvas (1793) by John Trumbuil; Fogg Art Museum, Harvard University, 32, 1) Joy Adamson/ICCE. 33. 1) Z. Leszczynski, Animals Animals. 2) University of Illinois at Chicago Library, Jane Addams Memorial Collection, 34, 1) Gail Rubin, Photo Researchers. 2) Mary Evans Picture Library. 35. 1) Four by Five. 36. 1) Greg Bowman. 45. 1) Richard Desgrand. 46. 1) Wide World. 49. 1) E. R. Degginger. 50, 1) Eric Lindgren. 2) Click/Chicago. 51, 1) Gerry Souter, Van Cleve Photography. 52. 1) Kent Reno, Jeroboam, Inc. 2) Tropix/J. Schmid. 3) Gerry Souter, Van Cleve, Inc. 4) Victor Englebert, De Wys, Inc. 53. 1) Hutchison Library. 2) John & Penny Hubiey. 3) South American Pictures. 54. 1) Timothy Eagan, Woodfin Camp. 55. 1) Runk/Schoenberger from Grant Heilman. 56. 1) Bridgeman Art Library. 60. 1) Spectrum Colour Library. 3) Christine Osborne. 61. 1) Tropix/M & V Birley. 63. 1) 1976 The Procter Gamble Co. 64, 1) Ogilvy & Mather. 2) Ogilvy & Mather, 65, 1) Historical Pictures Service. 66. 1) Coca-Cola Company. 68. 1) Ronald Sheridan. 71. 1) Lockheed-Georgia Company. 74. 1) Boeing Commercial Airplane Company. 75. 1) J. R. Eyerman. 2) Chris Sorensen, The Stock Market. 3) U.S. Air Force. 4) Paul Schutzer, Life Magazine, Time Inc. 76. 1) Flight of Daedalus and Fall of carus (1493) a woodcut by an unknown German artist; the Science Museum, London. 2) The Science Museum, London. 77.1) Smithsonian Institution. 2) Smithsonian Institution. 3) Smithsonian Institution. 79. 1) Culver Service. 86. 1) British Airways. 87. 1) British Aerospace. 2) British Aerospace. 3) Cessna Aircraft Company. 88. 1) Aviation Photographs International. 2) Frederic Lewis. 3) Grammon Corporation. 89. 1) McDonnell Douglas Corporation. 90. 1) Courtesy of Piper Aircraft Corporation. 92. 1) Bill Barley, Photri. 2) Four by Five. 93. 1) Courtesy of Hartzell Propeller. 2) Courtesy of Hartzell Propeller. 3) Courtesy of Hartzell Propeller. 101. 1) Courtesy of Piper Aircraft Corporation. 102. 1) U.S. Coast & Geodetic Survey. 1) Federal Aviation 103.

Administration. 104. 1) Photri. 2) Photri. 3) Photri. 105, 1) British Aerospace. 106, 1) John Siceloff, 111, 1) J. R. Guadagno, Putney, 113, 1) John Siceloff, 2) Ravaux, A.A.A. 3) John Siceloff, 114, 1) Edward S. Ross. 116. 1) Gerald Cubitt. 2) David Lomax, Robert Harding Picture Library, 117, 1) John Moss, Black Star. 2) Carl Frank, Photo Researchers, 122, 1) Robert Frerck, 2) Natl. Tourism Office of Tunisia. 3) Robert Frerck. 4) Edward S. Ross. 5) Robert Frerck. 6) Edward S. Ross. 123. 1) Sarah Errington Porlock, Hutchison Library, 124, 2) Afrique Photo. 125. 1) Colorific. 2) Brent Jones. 3) H. K. Brushe, Artstreet. 126, 1) Anne Bolt. 2) Edward S. Ross, 127, 1) Woodfin Camp. 2) Jim Holland, Stock, Boston. 128. 1) Hutchison Library. 2) Gaston Malherbe from Louis Mercier. 129. 2) Agence Hoa-Qui. 130. 1) Victor Englebert, Black Star. 2) Robert Frerck. 131. 1) Agence Hoa-Qui. 2) Robert Frerck. 132. 1) Bernard Pierre Wolff, Photo Researchers. 2) Hutchison Library, 133, 1) Leon V. Kofod. 2) Beryl Goldberg. 3) Agence Hoa-Qui. 134, 1) Nelson A. Rockefeller Collection (Lee Boltin). 2) Agence Hoa-Qui. 3) Nelson A. Rockefeller Collection (Lee Boltin). 135. 1) Robert Davis. 2) Hamilton Wright, Photo Researchers. 3) Beryl Goldberg. 4) Owen Franken, Stock. Boston. 137. 1) Victor Englebert, Photo Researchers. 2) Agence Hoa-Qui. 138. 1) M. Philip Kahl, Jr, Photo Researchers. 2) Norman Meyers, Bruce Coleman. 141. 1) George Holton, Photo Researchers. 2) M. D. England, Ardea London. 3) Carl Frank, Photo Researchers. 4) Gerald Cubitt. 5) Peter Davey, Bruce Coleman. 6) J. A. L. Cooke, Oxford Scientific Films. 144. 2) Georg Gerster, Photo Researchers, 145. 1) Hutchison Library. 2) Georg Gerster, Photo Researchers. 148, 1) Reproduction of a rock painting (3500\3000 B.C.); Musee de 'Homme, Paris (Erich Lessing, Magnum). 1) Timothy Kendall. 153. Authenticated News International, 155, 1) Derek Fell. 2) Harvard University Archives. 158. 1) W. Atlee Burpee Co. 160. 1) Giuseppe Mazza. 161. 1) Miller Services. 2) M. Stone. DPI, 162, 1) Leon V. Kofod. 2) Jean-Claude Leieune, Stock, Boston. 164. 1) J. C. Allen and Son. 2) Ransomes, Sims and Jefferies. 166. 1) R. C. Hunt. 167. 1) J. Allan Cash Photolibrary. 2) Photographic Library of Australia. 171. 1) The Louvre, Paris; Ronald Sheridan. 2) Metropolitan Museum of Art, New York City, Egyptian Expedition Rogers Fund, 1930. 172. 1) Bettmann Archive. 173. 1) Historical Pictures Service. 174. 1) Library of Congress. 2) Culver. 3) State Historical Society of Wisconsin. 178. 1) Spectrum Colour Library. 180. 1) Centers for Disease Control and Prevention. 181. 1) Artstreet. 2) Rob Cousins, Panos. 185. 1) Smithsonian Institution. 188. 1) National Center for Atmospheric Research. 195. 1) Department of National Defence of Canada. 203.1)Peter

Vadnai, The Stock Market. 2) Chris Jones, The Stock Market, 206, 1)U.S. Navy. , 208, 3) United Airlines. 4) American Airlines. 209. 1) Gabe Palmer, The Stock Market. 2) George Hall. 236. 1) Karen Kent, The Stock Market. 214. 1) Airborne Express. 216. 1) Cathay Pacific Airways. 217. 1) Culver. 2) Goodyear. 219. 1) News Syndicate Co. 220. 1) Michael Holford. 221. 1) Art Resource. 2) UPI/Bettmann Newsphotos. 3) Joseph L. Vogl. 223, 1) Sequoyah Caverns. 2) Rogers Fund, 1926. 224. 1) SCALA/Art Resource. 226. 1) Keith Gunnar, West Stock. 229. 1) Ferdinando Scianna, Magnum. 230. 1) Bruce Coleman Ltd. 231. 1) Hutchison Library. 232. 1) Photographic Library of Australia. 2) Bruce Coleman Inc. 234. 1) Francisco Erize/Bruce Coleman. 235. 1) E. Alan McGee, FPG. 236. 1) Culver Pictures. 239. 1) Image Bank. 240. 1) Chicago Historical Society. 241. 1) Museum of the City of New York. 244. 1) Roman copy of marble sculpture after Lysippus, Capitolino Museum, Rome (Alinari from Art Reference Bureau). 245. 1) J. Allan Cash Photolibrary. 247. 1) J. C. Allen and Son. 2) J. C. Allen and Son. 248. 1) J. C. Allen and Son. 2) J. C. Allen and Son. 249. 1) Mary Evans Picture Library. 250. 1) E. R. Degginger. 251. 1) Tony Rose. 261. 1) Shostal. 264. 1) Sarah Errington, Camerapix Hutchison Library. 2) Shostal. 3) H Kanus, Shostal. 265. 1) Daniel Simon, Gamma/Liaison. 267. 1) Adam Woolfitt, Woodfin Camp. 268. 1) Photographic Library of Australia. 271. 1) Frank Spooner Pictures/Gamma. 275. 1) Treat Davidson, NAS. 276. 1) Bruce Coleman. 2) G. J. Chafaris. 277. 1) FPG. 2) Giraudon/Art Resource. 279, 1) Mary Evans Picture Library. 280, 1) Peter A. Harding. 281, 1) David M. Stone, Photo/Nats. 2) Francisco Erize, Bruce Coleman. 3) Swiss National Tourist Office. 287. 1) ZEFA. 288. 1) Artstreet.289.1) Craig Kersten. 290. 1) Boeing. 2) Aluminum Company of America. 298. 1) Luiz C. Marigo from Peter Arnold. 299, 1) Michael Nichols, Magnum. 2) Bruno Barbey, Magnum. 300. 1) Loren McIntyre, Woodfin Camp Inc. 301. 1) Gemological Institute of America. 303. 1) Larry Mulvel. SPL from Photo Researchers. 2) David Weintraub, SPL from Photo Researchers. 306. 1) Bombardment of Fort Sumter. Charleston Harbor, a colour lithograph by Currier & Ives (SCALA/Art Resource). 307. 1) Bettmann Archive. 314. 1) Mrs Raymond Emerson. 2) Brown Bros. 3) Portrait by Thomas C. Corner, Enoch Pratt Free Library, Baltimore. 4) Brown Bros. 315. 1) Portrait by Joseph Oriel Eaton, Museum of Fine Arts, Boston, 2) Ewing Galloway, 3) The Trustees of Amherst College, Amherst, Mass. 4) Bettmann Archive. 316. 1) Brown Bros. 2) Karsh, Ottawa. 317. 1) Lofman-Pix. 2) Schaal, Pix. 318.1)United Press Int. 2) Random House. 319.1) Jill Krementz. 2) Bob

Black, Chicago Daily News. 320.1) Jill Krementz. 2) Jill Krementz. 3) Jill Krementz. 321.1) Jim Anderson, Black Star. 325. 1) American Antiquarian Society, Worcester, Mass. 2) John Carter Brown Library at Brown University, Providence, R. I. 327. 4) Yale University Art Gallery. 328, 1) Museé de Versailles (Giraudon/Art Resource). 330. 1) Cameramann International, Ltd. 332. 1) Haesler Art Publishers/Art Resource. 333. 1) Richard Reinhold. 338. 1) Oxford Scientific Films from Animals Animals, 2) Manfred Kage from Peter Arnold, 339, 1) Ayala Museum. 342. 1) Photographic Library of Australia. 343. 1) S. Stammers, Science Photo Library, 344. 1) Spectrum Colour Library. 2) Photri. 345. 1) Bettmann Archive. 353. 1) Hersholt Collection, Library of Congress. 354. 1) Franz Rupp. 2) Schaal Pix: Harcourt, Brace, 355, 1) Chip and Rosa Maria Peterson. 356. 1) Douglas Dickins. 357. 1) J. Allan Cash Photolibrary. 358. 1) Douglas Dickins. 361, Cameramann International from Marilyn Gartman, 362, 1) Cameramann International from Marilyn Gartman, 363, 1) Qualimetrics, 367. 1) George Holton, Photo Researchers, 373. 1) Hutchison Library 374. 1) Hutchison Library. 379. 1) Melissa Grimes-Guy, Photo Researchers. 2) Larry Stessin, Photo Researchers. 3) Anna E. Zuckerman, Torn Stack & Assoc. 382. 1) Leonard Lee Rue III. 2) Jane Burton, Bruce Coleman Ltd. 383. 1) Lynne M. Stone, Animals Animals. 4) Russ Kline, Photo Researchers. 385. 1) Ylla, Rapho Guillumette. 2) Guggisberg, Photo Researchers. 3) Conzett & Huber. 4) Peterson, Photo Researchers. 6) Simon Trevor. 386, 2) Russ Kinne, Photo Researchers. 6) FPG. 387, 2) Okapia, Publix. 5) Geoffroy Kinns, Photo Researchers. 389. 3) Des Bartlett, Photo Researchers. 4) Okapia, Publix. 5) James Simon, Photo Researchers. 7) Ylla, Rapho Guillumette, 390. 1) Jerry L. Ferrara, Photo Researchers. 2) Cy La Tour. 3) David Fleay. 4) Bob McKeever, Tom Stack & Associates. 391. 2) Nathan Cohen, 3) Lewis W. Walker, Photo Researchers. 4) Cy La Tour, 5) Gail Rubin. Photo Researchers. 392. 3) Cy La Tour. 5) Emil Schulthess, Black Star. 393. 1) St. Meyers/Okapia, Photo Researchers. 4) Steve McCutcheon. 394, 4) Margiocco from Paul Popper, 5) G. Tomsich, Photo Researchers. 6) Margiocco from Paul Popper, 7) Verne Peckham, NAS. 10) Douglas P. Wilson, 395. 1) Mike Bacon, Tom Stack & Associates, 396. 1) Jacana. 398. 1) G. I. Bernard, Oxford Scientific Films from Animals Animals, 2) E. R. Degginger. 3) E. R. Degginger. 4) Stephen Dalton, Animals Animals. 399. 1) François Gohier. 2) E. R. Degginger. 3) Ålan Root/Okapia Photo Researchers. 4) Oxford Scientific Films from Animals Animals. 402. 1) Leonard Lee Rue III, 2) E. R. Degginger, 3) E. R. Degginger, 4) Zig Leszcynski, Animals Animals, 5) Ted Levin, Animals Animals, 6) A. J. Deane, Bruce Coleman Ltd. 7) Alan Blank, Bruce Coleman Ltd. 403. 1) Stouffer Production Ltd from Animals Animals, 2) David G. Allen, 3) Denise Tackeff, Tom Stack & Assoc. 4) E. R. Degginger, 5) Breck Kent,

Animals Animals. 6) Eric A. Soder, Tom Stack & Assoc. 7) Alexander B. Klots. 8) Pierre Labout, Jacana. 406, 1) Frans Lanting Photoresearchers. 407. 1) B. Amadeus Rubel, Shostal, 2) David Fleay. Photographics from Photoresearchers. 408. 1) Karl W. Kenyon, NAS. 409, 1) Anthony Bannister, Animals Animals. 2) Dennis Green, Bruce Coleman Ltd. 3) E. R. Degginger. 410. 1) Charles G. Summers Jr., Tom Stack & Assoc. 412. 1) N. K. Fletcher, Photo Researchers. 413. 1) Stephen J. Krasemann, from Nature Conservancy Researchers. 420. 1) Will Vinton Productions. 2) Pixar. 421. 1) John Canemaker Collection. 2) Warner Bros Inc. 1988. 423. 2) Spectrum Colour Library. 424, 2) Detail of portrait by M. Dahl (1699). National Portrait Gallery. London. 426, 1) Australian News. 428, 5) Balzekas Museum of Lithuanian Culture, 431. 2) John R. Conway. 432. 2) Edward S. Ross. 433. 1) Edward S. Ross. 2) John R. Conway. 435. 1) Michael Parfit. 2) Guy Mannering, Bruce Coleman. 443. 1) Popperfoto. 2) Bettmann Archive. 3) Granger Collection. 445. 1) Michael Parfit. 446. 1) Michael Parfit. 447. Joseph Van Wormer, Bruce Coleman Inc. 448. 1) Thomas Nebbia, DPI. 2) Mark Boulton, NAS. 3) C. G. Hampson, APF. 449. 1) E. S. Ross. 2) E. S. Ross. 450. 1) Brown Bros. 451. 1) David Brill, National Geographic Society, 452, 1) Edward Tronick, Anthro-Photo, 453, 1) Margaret Mead, 456, 1) Merck & Co. Inc. 458, 1) Taurus. 459, 1) The British Museum. 460. 1) J. Alex Langley, DPI. 461. 1) J. Allan Cash Photolibrary. 463. 1) Michael Holford. 2) The Hutchison Library. 3) Christie's Colour Library, 466.1) Alinari, 467. 1) Fionnbar Callanan. 468. 1) Shostal, 469. 1) Australian War Museum. 472. 1) Art Resource from SCALA. 473. 1) Rob Williams/Bruce Coleman. 475. 1) Ray Manley from Shostal. 478. 1) Grant Heilman. 479. 1) Hans Reinhard/Bruce Coleman, 2) J. B. Lippincott & Co., Philadelphia; Chicago Historical Society. 485. 1) Royal Astronomical Society Library. 486. 1) Granger Collection. 2) Anderson from Art Reference Bureau. 487. 1) Rex Features. 490. 1) Andy Hernandez, Sipa Press. 3) Eddie Adams, Contact. 491. 1) Mark Edwards, Sygma. 492. 1) Richard Steedman, the Stock Market. 494. 1) Robert Harding Picture Library. 495. 1) Barthelemy, Sipa Press. 498. 1) ZEFA. 499. 1) Center for American Archeology, Northwestern University, 500, 1) New China Pictures. 2) Phil Degginger, Bruce Coleman. 3) National Museum of Man, Ottawa, Canada. 501. 1) Pat Baker, Western Australian Maritime Museum. 2) Aerofilms. 502. 1) Donald Frey, Institute of Nautical Archaeology. 2) Center for American Archeology, Northwestern University, 503, 2) Norman Owen Tomalin, Bruce Coleman, 504. 1) The Griffith Institute, Ashmolean Museum, Oxford, 506, 1) Andes Press/Carlos Reves. 507. 1) Alain Compost/Bruce Coleman, 509. 2) Apple Color Photography. 511. 1) Christie's Colour Library, 512, 1) Dennis Brack, Black Star. 2) Orion Press. 513. 1) Lloyds of London. 2) Koos Dykstra, Image Finders. 3) Marvin B. Winter, Photo Researchers. 4)

Robert Frerck. 516. 1) Eric Hayes, Image Finders. 518. 1) Ronald Sheridan. 2) Bruno Barbey, Magnum. 519. 1) Werner Forman Archive. 2) Robert Harding Picture Library 520. 2) George Holton, Photo Researchers. 521. 1) Robert Frerck. 2) Margot Wolfke. SCALA/EPA. 3) SCALA/Art Resource, 522, 2) SCALA/EPA. 524, 1) Raymond V. Schoder S.J. 2) J. Allan Cash Photolibrary, 525, 1) Ronald Sheridan. 2) Raymond V. Schoder. S.J. 3) Ronald Sheridan. 4) Michael Holford. 526. 1) Raymond V. Schoder, S.J. 2) SCALA/EPA. 3) SCALA/EPA. 527, 1 SEF/EPA, 2) De Sazo, Photo Researchers, 528. 1) Michael Holford. 529. 1) Michael Holford. 2) A. F. Kersting. 530. 1) His Grace the Duke of Northumberland. 2) Topsfield Historical Society, Massachusetts, U.S.A. 3) Mike Mazzaschi, Boston, 531, 2) Peter Jackson/Fotomas Index. 532. 1) A. F. Kersting. 2) Erich Lessing, Magnum. 533. 1) Pressebilddienst Votava. 2) Ernst Heyer. Burkhard-Verlag. 534. 1) Ernst Heyer. Burkhard-Verlag. Osterreichische 2) Nationalbibliothek, Vienna, Austria, 3) Emst Hever, Burkhard-Verlag, 536, 1) Hedrich-Blessing, 2) Hedrich-Blessing, 537, 1) Gerard Mathieu, A.F.I.P. 2) Leonard Freed, Magnum. 538. 1) Artstreet. 2) Tom Brown. 539. 1) Carlos Nino, Architectural Association. 2) David Falconer, West Stock. 541. 1) Fred Bruemmer. 2) Robert Davis, Artstreet, 543. 1) De Wys Inc. 2) Howard Sochurek, Woodfin Camp. 3) Leif-Erik Nygards, Artstreet. 545. 1) William Cromie. 548. 1) William Cromie. 549. 1) Lennart Norström. 551. 1) Stockphotos. 2) Enrique Limbrunner, Plessner International. 552. 1) Enrique Limbrunner, Plessner International, 553, 1) Stockphotos, 555, 1) Loren McIntyre, CHER Agency. 2) Enrique Limbrunner, Plessner International. 556. 1) Enrique Limbrunner, Plessner International. 2) Enrique Limbrunner, Plessner International. 557. 1) Milt and Joan Mann. 2) Enrique Limbrunner, Plessner International, 558, 1) Enrique Limbrunner, Plessner International. 559. 1) Enrique Limbrunner, Plessner International.2) John N. Yaeger, West Stock. 560. 1) Enrique Limbrunner, Plessner International, 561, 1) Enrique Limbrunner Plessner International, 562. 3) The Embrace at Maipu(1908) an oil painting by Pedro Subercaseaux; Enrique Limbrunner, 563, 1) United Press International, 564, 1) Eduardo Comesaña, Black Star. 566. 1) SCALA/Art Resource. 2) Royal Astronomical Society Library. 567. 1) Alinari from Art Reference Bureau. 568. 1) Metropolitan Museum of Art. New York City. 569. 1) Spectrum Colour Library. 570. 3) Ronald Sheridan. 574. 1) Manley Features from Shostal. 576. 1) Brown Bros. 577. 1) Francisco Erize, Bruce Coleman, 578. 1) Northern Ireland Tourist Board. 579. 1) Hirokawa, Orion from Sipa Press. 580, 1) Robert Harding Picture Library Ltd. 582, 1) Christie's Colour Library. 2) SCALA/Art Resource. 584. 1) Picturepoint. 2) Peter A. Harding. 590. 1) Wide World. 591. 1) Sovfoto. 2) P. Vauthey, Sygma. 3) J. P. Laffont, Sygma. 595. 1) Topham. 596. 1) U.S. Air Force, 601, 1) James H. Pickerell, Black

Star. 2) Gianfranco Gorgoni. 603. 1) American Ballet Theatre (Martha Swope). 604. 1) Brooklyn Museum, New York City. 608. 2) Preston M. Wolin, M.D., Rush-Presbyterian-St. Luke's Medical Center, Chicago. 612. 1) Catherine Ursillo, Photo Researchers. 613. 1) U.S. Army. 2) U.S. Army. 3) U.S. Army. 614. 1) U.S. Army. 2) U.S. Army. 615. 1) Aruba Tourist Bureau, 620, 1) Gift of Amelia Elizabeth White. 621, 1) Duncan Raban/All Action. 622. 1) Raghubir Singh from Nancy Palmer Agency. 2) Milt and John Mann. 623. 1) Emil Schulthess, Black Star. 2) Sid Latham, Photo Researchers. 3) Mark Edwards, Keystone. 4) Judy Brodie, Black Star. 624. 1) Steve Vidler, De Wys, Inc. 625. 1) Robert W. Young, DPI. 2) Sven-Erik Hedin. 3) Rene Burri, Magnum. 4) R. Wallis, Sipa. 5) Charles Harbutt, Magnum. 6) Sven-Erik Hedin from Carl Ostman. 7) Constantine Manos, Magnum. 8) George Holton, Photo Researchers. 656. 1) John Lewis Stage, Photo Researchers. 631. 1) Sammy Abboud, FPG. 632. 1) Photographic Library of Australia. 634. 1) T. S. Satyan, Black Star. 635. 1) T. S. Satyan, Black Star. 636. 1) Herta Newton, Van Cleve Photography. 637. 1) Hermann Schienker, Photo Researchers. 638. 1) Emil Schulthess, Black Star. 639. 1) Rolf Clipper from Carl Ostman. 640, 1) Georg Gerster, Rapho Guillumette. 641, 1) C. J. Coulson, Pictorial Parade. 642, 2) Sven-Erik Hedin. 643, 1) George Holton, Photo Researchers. 645. 1) Bjorn Bolstad, Photo Researchers. 2) Fred Ward, Black Star. 652. 1) Marc Riboud, Magnum. 2) A. L. Goldman, Rapho Guillumette. 654. 1) Emil Schulthess, Black Star. 2) Bernard Wolf, DPI. 656. 1) Van Bucher, Photo Researchers. 2) Harry Redl, Black Star. 659. 1) Bombay Green in 1767, a woodcut by an unknown artist; Radio Times Hulton Picture Library, London. 2) United Fress International, 662, 1) Pix. 2) Wide World. 663. 1) United Nations. 2) Harry Redl, Black Star. 665, 1) Gray Mortimore, Allsport. 666. 1) Michael Holford. 667. 2) Phil Farnes, Photo Researchers. 668. 1) A-Z Botanical Collection. 669. 1) J. Allan Cash Photolibrary. 670. 1) Spectrum Colour Library. 671. 1) Robert Harding Picture Library. 673. 1) Voja Miladinovic, Sipa-Rex. 675. Gift of John D. Rockefeller Jr, 1932. 676. 1) Iraq Museum, Baghdad. 2) Metropolitan Museum of Art, New York City. 677. 1) Wide World. 679. 1) The Brook Collection. 2) United Press Int. 683. 1) Sovioto. 2) Wide World. 684. 1) Wide World, 685, 1) California Institute of Technology(Palomar Observatory). 2) Jet Propulsion Laboratory. 3) David F. Malin, Anglo-Australian Observatory. 4) Jay M. Pasachoff, 688, 1) 1979 Royal Observatory Edinburgh(David F. Malin, Anglo-Australian Observatory). 690. 2) Jay M. Pasachoff. 4) AURA, Kitt Peak National Observatory. 691. 1) Jay M. Pasachoff. 2) Max Planck Institute for Radio Astronomy. 692. 1) COS-B Collaboration. 2) S. S. Murray, Harvard-Smithsonian Center for Astrophysics. 3) Jay M. Pasachoff. 693. 1) Wyoming Infrared Observatory, 2) Peter Cook and Gordon H. Pettengill, Massachusetts Institute of

Technology, 3) B. F. Burke and colleagues, Massachusetts Institute of Technology, 695, Dr Georg Gerster, Photo Researchers. 696. 1) Jay M. Pasachoff. 2) Jay M. Pasachoff. 3) Ann Ronan Picture Library. 698. 1) J. R. Eyerman, Life magazine, 1950 Time. 2) Bell Laboratories. 700. 1) NASA. 2) Multiple Mirror Telescope Observatory. 702. 1) Robert Harding Picture Library. 703. 1) Popperfoto. 704. 1) Michael Holford. 705. 1) J. Alex Langley, DPI. 706. 2) J. Alex Langley, DPI. 708. 1) Marvin Newman, Woodfin Camp, Inc. 710. 1) Focus on Sports. 2) Steven E. Sutton, Duomo. 711. 1) John McDonough, Focus on Sports. 2) Heinz Kluetmeier, Sports Illustrated, Time. 712. 1) Rich Clarkson, Sports Illustrated, Time Inc. 713, 1) Allsport/P. Rondeau. 716. 1) The Slide File. 718. 1) Spectrum Colour Library, 721, 1) Canadian Government Travel Bureau. 723. 1) Museo Archeologico Nazionale, Naples, Italy. 2) Karen Lukas, Photo Researchers. 724. 1) A. V. Crewe, M. Ohtsuki and M. Utlaut, Enrico Fermi Institute, University of Chicago. 728. 1) Fermilab. 731. 1) SCALA/Art Resource. 735. 1) David Moore. 736. 1) Chris Gilbert. 2) Chris Gilbert. 737. 1) New Zealand Herald. 738. 1) Chris Gilbert. 2) Bettmann Archive.741. 1) Courtesy of the New York Historical Society.742.Detail of self-portrait, Mrs Edmundo Lassalle, New York. 746. 1) Vatican Museums (SCALA/Art Resource). 2) National Audubon Society Library. 747. 1) Jacana. 748. 1) Palazzo Pallavicini Galleria (Art Resource). 2) U.S. Naval Observatory (Hansen Planetarium). **750.** 1) David Moore, Black Star. 753. 1) Tony Stone Photolibrary, London. 2) Tony Stone Photolibrary, London. 755. 3) Philip Quirk, Wildlight.758. 1) Bureau 759.1) Immigration Research. of Photographic Library of Australia. 2) Victorian Football League. 760. 1) Robert Frerck. 761. David Moore, Black Star. 2) Robert Frerck. 763. 1) Carl Roessler. 2)Robert Frerck. 764. 1) G.R. Roberts. 2) Robert Frerck. 765. 4)David Moore, Black Star.770. 1) G. R. Roberts, 2) Robert Frerck, 3) Robert Frerck, 4) Robert Frerck. 5) Robert Frerck. 6) Robert Frerck. 7) G. R. Roberts. 775.2) Robert Frerck. 777. 1) Australian Department of Defence. 778. 1) Australian Department of Defence. 2) Australian Department of Defence. 779. 1) Australian Department of Defence, 2) Australian Department of Defence. 3) Australian War Memorial. 780. 1) Australian War Memorial.785.1)Sydney Opera House. 786. 1) Richard Desgrand.787. 1) Greg Bowman. 2) Richard Desgrand.788. 1) Richard Desgrand. 2) Richard Desgrand. 3) Greg Bowman.789. 1) Australian Overseas Information Service, London.790. Australian Overseas Information Service, London. 794. 1) The Mitchell Library. 2) National Library of Australia. 795. 1) National Library of Australia. 2) Australian War Memorial. 3) Dixson Galleries. 796. 1) National Library of Australia. 2) National Library of Australia.797. 1) Douglass Baglin.799. 1) National Library of Australia. 800. 1) National Library of Australia. 803. 1) Reproduced by courtesy of John Sands Promotional

Products.804. 1) The Mitchell Library. 805.1) The Mitchell Library.807. 1) The Mitchell Library. 809. 1) The Mitchell Library.811. 1) Dixson Galleries. 812. 1) The Mitchell Library. 817. 1) Australian War Memorial.819 1) Queensland Art Gallery.820. 1) Art Gallery of New South Wales. 824. 1) Photographic Agency of Australia.827. 1) Richard Desgrand. 835.1) Douglass Baglin. 836.2) Douglass Baglin. 838. 1) Douglass Baglin.846. 1) Auscape. 2) Australian High Commission, London. 847. 1) Victorian Football League.849. 1) Photographic Library of Australia. 853. 1) Photographic Agency of Australia.854. 1) Photographic Agency of Australia.856. 1) Toni Schneiders, Bruce Coleman Inc. 857. 1) Austrian Tourist Board.859. 1) H. Gritscher, Black Star. 2) Francis O. Spalding, Tom Stack & Associates.860. 1) R. Heininger Jr., Bruce Coleman Inc. 2) H. Gritscher, Black Star. 861. 2) John Launois, Black Star. 862. 2) Toni Schneiders, Bruce Coleman Inc. 863. 1) Austrian Tourist Board. 864. 1) Horst Ebersberg, Rapho Guillumette. 867. 1) Wide World, 870, 1) NYT Pictures, 871, 1) Universal Autograph Collectors Club. 872. 1) Cameramann International, Ltd. 873. 1) General Motors Corporation. 875. 1) Marconi. 2)Image Bank. 877, 1) Peter A. Harding. 878. 1) Photographic Library of Australia. 880. 1) Photographic Library of Australia. 881. 1) Austin J. Brown/Aviation Picture Library. 882.1) National Air and Space Museum, Smithsonian Institution. 883. 1) National Air and Space Museum, Smithsonian Institution. National Air and Space Museum, Smithsonian Institution. 884. 1) United Airlines, 885, 2) Boeing Co. 886, 1) Airbus Industrie. 887. 1) Giorgio Ricatto, Shostal. 889. 1) James Davis. 890. 2) Spectrum Colour Library, 891, 1) Peter A. Harding, 893. 1) Peter A. Harding. 894. 1) Greg Bowman. 2) Anthony and Elizabeth Bornford, Ardea. 897. 1) Serguel Fedorov, Woodfin Camp, Inc. 899. 1) Ramiz Shehadi, Jr., Pirámide Photo Service, 900, 1) American Museum of Natural History, New York City. 901, 1) Murray Greenberg, DPI. 2) Laures Giraudon. MAS. 902. 1) Ramiz Shehadi, Jr., Pirimide Photo Service.

Service.

3. 1) Tom McHugh, Photo Researchers. 4. 1) Jenny Watanabe, 2) Emil Muench, 3) United Nations. 6. 1) Neal Mason, FPG. 9. 1) Brent Jones. 11. 1) British Museum. 12. 1) University of Chicago. 13. 2) C.M. Dixon. 14. 1) British Museum. 2) British Museum. 16. 1) New York Public Library. 18. 2) National Portrait Gallery, London. 21. 1) CNRI/SPL from Photo Researchers. 4) SPL from Photo Researchers. 5) Eric Grave, Photo Researchers. 6) Charles C. Brinton, Jr., and Judith Camahan, University of Pittsburgh. 25. 2) U.S. Badminton Association. 4) Stephen Shames, Photon West. 26. 2) Shostal. 27. 2) Larry Day. 29. 1) T.D. Winter, Robert Harding Picture Library, 30. 1) Chuck O Rear, Woodfin Camp. 2) Karl Kummels, Shostal. 32. 1)

Bernard Gerard, Hutchison Library. 33. 1) Mansell. 34. 1) Pamella McReynolds. 36. 1) Dennis Green/Bruce Coleman. 39. 2) Stephen Hale, WTTW-TV. 40. 1) Smithsonian Institution, 41, 1) Robert Harding Picture Library, 42, 1) Robert Harding Picture Library. 2) Spectrum Colour Library. 44. 1) Philippe Roy, Explorer. 46. 1) Photographic Library of Australia. 47. 1) Royal Ballet production(MIR courtesy Hurok Concerts). 48. 1) City Center Joffrey Ballet production (Fred Fehl). 49. 1) Martha Swope. 2) Sisse Brimberg, Woodfin Camp. 50. 1) Sisse Brimberg, Woodfin Camp. 2) David Hurn, Magnum. 51. 1) Courtesy New York City Ballet. 2) Courtesy New York City Ballet. 52, 1) Martha Swope, 54, 2) Fred Fehl. 3) Costume designs courtesy of Madame Barbara Karinska and the New York City Ballet. 55. 2) Courtesy the Dance Collection, New York Public Library at Lincoln Center, Astor, Lenox and Tilden Foundation, 56, 1) New York Public Library at Lincoln Center. 2) Courtesy of the Dance Collection, New York Public Library at Lincoln Center, Astor, Lenox and Tilden Foundations. 57. 1) Johan Elbers. 58. 1) David Buckland. 59. 1) Harold E. Edgerton, Massachusetts Institute of Technology, 60. 1) Jim Shepherd, 61. 1) National Center for Atmospheric Research. 2) National Center for Atmospheric Research, 3) National Center for Atmospheric Research. 63. 1) United States National Museum. 64. 1) Photoworld. 2) United Press Int. 65. 1) Wide World. 66. 1) Larry Korb, Business Records Corp. 2) Giuseppe Mazza. 68. 2) Earl Roberge, Photo Researchers. 3) Robert P. Carr, Bruce Coleman. 71. 1) M. Tonooka, Bruce Coleman. 72. 1) G. R. Roberts. 2) J Kraay, Bruce Coleman. 73. 1) Spectrum Colour Library. 74. 1) Cameramann International from Marilyn Gartman. 75. 1) Rex Features. 2) Robert Cohen, Black Star. 76. 1) Hans & Judy Beste, Torn Stack & Associates. 2) J. Allan Cash Photolibrary, 77. 1) Ron E. Howell. 78, 1) Robert Harding Picture Library. 79. Robert Harding Picture Library. 80. 1) James Holland, Stock, Boston. 81. 1) Mireille Vautier, A.A.A. photo. 82. 1) Sandro Tucci Gamma/Liaison. 83. 1) J. Alex Langley, DPI. 2) Herta Newton, Van Cleve Photography. 85. 1) Alan Band Associates. 86. 1) Emil Muench from Carl Östman. 2) R. T. W. from Carl Ostman. 87. 1) J. Alex Langley, DPI. 89, 1) Baldev, Sygma. 90, 1) J. Allan Cash Photolibrary. 2) Pamella McReynolds. 91. 1) Biblioteca Estense, Modena, Italy (SCALA/EPA). 2) Bettmann Archive. 95. 1) Bank of England. 96. 1) The Mitchell Library. 97. 1) Jan Taylor/Bruce Coleman. 2) Eric Crichton/Bruce Coleman. 98. 1) Pictorial Parade. 2) Masters and Fellows of Corpus Christi College, Cambridge University, England, 99. 1) Norman Myers, Bruce Coleman. 2) Susan Pierres from Peter Amold. 100. 1) R. Van Nostrand, Photo Researchers, 2) K. W. Fink, Bruce Coleman Inc. 3) M. P. Kahl, Bruce Coleman Inc. 4) Sally Wayland. 101. 1) AP/Wide World. 102. 1) J. Lightfoot, Robert Harding Picture Library. 103. Robert Harding Picture Library. 104. 1) Kurt Scholz. Shostal. 105. 1) Tom McHugh, Photo

Researchers. 106. 1) Giuseppe Mazza. 2) Hans Reinhard/Bruce Coleman. 107. 1) Cincinnati Art Museum. 108. 1) Eric Carle, Shostal. 2) Jim Steere, Chicago Symphony Orchestra. 109. 1) Robert Harding Picture Library. 112. 1) Grant Heilman. 2) Grant Heilman. 113. 1) Bill Curtsinger, Photo Researchers. 115. 2) Brown Bros. 117. 1) Photographic Library of Australia. 119. 1) Granger Collection. 2) Photographic Library of Australia, 120, 1) Phil Burchman, 121, 1) Mary Evans Picture Library. 2) Bettmann Archive. 122. 1) Australian News. 123. 1) Martha Swope. 2) J. L. Medeiros, National Park Service, 124, 1) George Mars Cassidy, Van Cleve Photography. 128. 1) Focus on Sports. 3) Focus on Sports. 132, 1) Pictorial Parade. 2) Bruce Coleman. 133. 1) SCALA/Editorial Photocolor Archives. 3) Lee Boltin. 134. 4) Jerry D. Jacka, Heard Museum. 5) Lee Boltin. 6) Carmelo Guadagno. 135. 1) Peter Read Miller, Focus West. 138. 1) Peter Read Miller, Focus West. 2) Richard Mackson, Focus West. 139. 1) Richard Mackson, Focus West. 2) Dick Raphael. 3) Jerry Wachter, Focus on Sports. 4) Dick Raphael. 142. 1) Pamella McReynolds, 2) Australian News, 144, 1) Kitty Kohout, Root Resources. 2) Pamella McReynolds. 145. 1) New York Public Library. 2) Harvey Lloyd, The Stock Market. 146. 1) S. C. Bisserot, Bruce Coleman. 147. 1) Nina Leen, Time Inc. 2) Nina Leen, Time Inc. 149.
1) The Mitchell Library. 150. 1) Historical Pictures Service. 2) Shostal. 151. 1) Bath City Council. 152. 1) Cameramann International from Marilyn Gartman. 153. 1) The Mitchell Library. 157, 1) Frank Wootton, 158, 1) Bettmann Archive. 2) Mary Evans Picture Library. 159. 1) Gift of Knoll International. 162. 2) N. Fox-Davies/Bruce Coleman. 3) John D. Dawson. 4) Runk/Schoenberger from Grant Heilman. 163. 1) Roger Roland Fuhr, ROLANDesign. 164. 1) U.S. Army. 2) John Bova, Photo Researchers. 165. 1) U.S. Coast Guard. 2) U.S. Coast Guard. 167, 1) Brown Bros. 168, 1) David Goodnow, 169, 1) Leonard Lee Rue, APF. 4) Tom McHugh, Photo Researchers. 170. 3) Russ Kinne, Photo Researchers. 172. 2) 1967 Crown Publishers, by permission of Crown Publishers. 174. 1) Fred Ward, Black Star. 2) Tom Blau. 175. 1) Consulate General of The Netherlands. 2) Wide World. 176. 1) Simon, Photo Researchers. 177. 1) Hans Reinhard, Bruce Coleman. 2) V. B. Scheffer, Photo Researchers. 3) Leonard Lee Rue III, Photo Researchers. 4) V. B. Scheffer, Photo Researchers. 178. 1) Karsh of Ottawa. 2) Pacemaker Press. 179. 1) Lauros, Giraudon. 180. 1) Nelson Fund. 2) Fratelli Fabbri Editori. Milan, Italy. 3) Branley Allan Branson. 4) Ello Furniture Company. 182, 1) Aerofilms. 184, 1) Ron Larsen, Van Cleve Photography. 185. 1) E. R. Degginger. 186. 2) Eric Gravé. 189. 1) Glen Sherwood. 191. 2) Annan Photo. 192. 1) Robert Mitchell. 2) Townsend P. Dickinson, Photo Researchers. 3) Spectrum Colour Library. 4) A1 Bussewitz, Photo/Nats. 194, 1) Granger Collection. 196. 3) Thomas Eisner. 4) Hans Reinhard, Bruce Colemann, 199, 1) Kjell B. Sandved, Bruce Coleman Inc. 2)

Edward S. Ross. 200. 1) Mansell. 2) Jerome Wexler, Photo Researchers. 201. 1) William Karel, Sygma. 2) Wide World. 3) Hans Reinhard/Bruce Coleman. 203. 1) Mary Evans Picture Library. 2) Mansell Collection. 3) Hulton Deutsch. 204, 1) Emil Schulthess. Black Star. 205. 1) Artstreet. 206. 1) Tony Stone Photolibrary, London. 2) Feature-Pix Colour Library. 3) Tony Stone Photolibrary, London. 207. 1) Feature-Pix Colour Library. 2) Image Bank. 3) Spectrum Colour Library, 209. 1) Bill Swersey, Gamma/Liaison. 211, 1) Northern Ireland Tourist Board. 213, 1) Callea Photo. 214. 1) Milt and Joan Mann. 215. 1) Vance Henry, Taurus. 217. 1) Milt and Joan Mann. 2) Vance Henry, Taurus. 3) Shostal. 218. 1) Shostal. 219. 2) Bruno Barbey, Magnum. 220. 1) Shostal. 2) W. Vanderhaegen from Franz Furst. 224. 1) John Nordell, JB Pictures. 225. 1) Jean-Pierre Courau, Explorer. 226. 1) Karl Kummels, Shostal, 227, 1) Metropolitan Museum of Art, the Crosby Brown Collection of Musical Instruments, 1889. 2) Metropolitan Museum of Art, Gift of Mrs. John Crosby Brown, 1909. 3) Metropolitan Museum of Art, the Crosby Brown Collection of Musical Instruments, 1889. 4) Linda Kelly-Hasett from Caryle Calvin. 228, 1) American Telephone & Telegraph Company. 230. 1) H. Rivarola, Bruce Coleman Ltd. 2) SCALA/Art Resource. 231. 1) Mansell. 232. 2) Bequest of Steven Carlton Clark. 233. 1) Viking Press. 2) Israel Office of Information. 234. 1) Hulton Deutsch Collection. 2) Photographic Library of Australia. 235. 1) Shell Photographic Service. 237. 1) Shostal. 241. 2) Mark Severin for Oxford University Press; Mansell. 242. 1) John Dominis, Wheeler Pictures. 243. 1) John Shaw, Bruce Coleman Ltd. 2) United Press Int. 246. 1) Dennis Orchard/Bruce Coleman. 247. 1) Raga, The Stock Market. 248. 1) Martzik, Bavaria. 249. 1) Damm, ZEFA. 250. 1) Tony Stone Photolibrary, London. 2) J. Allan Cash Photolibrary. 3) Tony Stone Photolibrary. London, 251, 1) Spectrum Colour Library, 2) Spectrum Colour Library. 3) Spectrum Colour Library. 253. 1) Sovfoto. 254. 1) Associated Press/ Topham. 255. 1) Robert Wallis, Sipa Press. 257. 1) Bermuda News Bureau. 258. 1) P. J. Sharpe, Shostal. 259. 2) Bettmann Archive. 260. 1) National Broadcasting Company, Inc. 263, 2) E. Streichan, Shostal. 264. 1) United Press Int. 266. 1) Michael Holford. 267. 1) Douglas Dickins. 268. 1) Giorgio Ricatto, Shostal. 269. 1) D. Aubert, Sygma. 270. 1) John C. Trever. 272. 1) Hirmer Verlag. 273. 1) School of Theology at Claremont (John C. Trever). 274. 1) G.B. Pineider. 2) By permission of the John Rylands Library, Manchester, England. 275. 1) John C. Trever. 276. 1) State Library. Barnberg, Germany. 2) Beinecke Rare Book and Manuscript Library, Yale University. 277. 1) American Bible Society. 279, 1) M. Decet. 280. 1) Mar-Jon's. 281. 1) Lawrence Migdale. 2) Bob Woodward, The Stock Market. 283. 1) Historical Pictures Service. 2) Historical Pictures Service. 3) Historical Pictures Service. 4) Culver. 284. 1) Rogers Fund, 1907. 285. 1) Eric Crichton, Bruce Coleman

Ltd. 2) Adam Woolfitt, Woodfin Camp. Inc. 286, 1) John W. Matthews, DRK Photo. 2) Perry D. Spocum, Earth Scenes. 287. 1) Hutchison Library. 288. 1) J. Allan Cash Photolibrary. 289. 1) Robert Harding Picture Library. 290. 1) Hutchison Library. 291. 1) Michael Holford. 296. 1) E. R. Degginger. 298. 2) Gerald Cubitt/Bruce Coleman. 304. 1) Hank Morgan, Photo Researchers, 2) D. P. Burnside, Photo Researchers. 3) Tim McCabe, Taurus. 4) Dave Woodward, Taurus. 305. 1) Runk/Schoenberger from Grant Heilman. 306. 1) SCALA/Art Resource. 2) S. Champier, Symphonia Platonis, 1516, 3) Metropolitan Museum of Art, Rogers Fund, 1913. 307. 2) Dr Jeremy Burgess, Science Photo Library. 3) Drawing by U. Schleicher-Benz in Lindauer Bilderbogen; Jan Thorbeck Verlag, Sigmaringen, West Germany. 308. 1) Bettmann Archive. 2) From Cuvier's Studies on the Bones of Fossil Vertebrates, 1812. 309. 1) From Schwann's Microscopical Researches, 1839. 2) SEF/Art Resource. 3) Hank Morgan, 311, 1) Used with permission of McGraw-Hill. 314. 1) Dwight R. Kuhn. 2) Kitty Kohout, Root Resources. 3) Sven Samelius. 316. 7) David C. Fritts, Animals Animals. 8) Charles G. Summers, Jr, DPI. 317. 1) Jim Brandenburg. 2) C. C. Lockwood, Animals Animals. 3) Tom Stack. 318. 1) Douglas Dickins. 4) B. Josedupont, Jacana. 337. 1) Leonard Lee Rue IV. 338. 1) Claude Nardin, Jacana, 2) Kevin Carijan, Ardea, London, 3) Don Hadden, Ardea, London, 340, 1) Shelly Grossman, Woodfin Camp. 2) Ducrot, Jacana. 3) Joseph VanWormer, Bruce Coleman. 4) Wayne Lankinen, Bruce Coleman. 5) Earl L. Kubis, Photographics. 6) Eric & David Hosking. 7) Jan L. Wassink, Tom Stack & Assoc. 8) M. D. England, Ardea London. 9) E. R. Degginger. 342. 2) Jacana. 344. 1) C. C. Lockwood, Animals Animals. 2) Brian Hawkes, 3) Charles G. Summers Jr., DPI. 345. 1) David G. Allen. 2) Hans and Judy Beste, Tom Stack & Assoc. 347. 1) Natural History Museum. 348. 1) David Overcash, Bruce Coleman Inc. 2) S. Roberts, Ardea London, 355, 1) Jeff Foott, Bruce Coleman Ltd. 357, 1) Gary R. Zahm, 361, 1) Jane Burton/Bruce Coleman, 362, 1) Hulton Deutsch Collection, 2) Camera Press, 3) James Israel, Shostal. 363. 1) Dennis Assinder, 2) City of Birmingham, 365, 1) City of Birmingham. 366, 1) Tony Stone Photo Library, London. 370. 1) Brown Bros. 372. 3) E. R. Degginger. 375. 1) Spectrum Colour Library. 377. 2) L. C. Marigo/Bruce Coleman. 378. 2) N. G. Blake/Bruce Coleman. 379. 1) E. Hanumantha Rao, Photo Researchers. 2) Bruce Coleman Inc. 380. 1) Robert Harding Picture Library. 381. 2) N. Fox-Davies/Bruce Coleman. 3) Historical Pictures Service. 383. 1) Kim Taylor, Bruce Coleman, Ltd. 2) Topham Picturepoint. 3) The Tate Gallery, London/Bridgeman Art Library. 384. 1) Sydney Morning Herald. 2) R. Pastner, FPG. 385. 1) Brown Brothers. 386. 1) Barry L. Runk from Grant Heilman, 387, 1) The Mitchell Library, 390, 1) Bruce Coleman Inc. 393, 1) Granger Collection. 2) Patrick Watson, Medichrome, 394, 1) Custom Medical Stock

Photo. 2) NIBSC/SPL from Photo Researchers. 3) CNRI/SPL from Photo Researchers, 396, 3) Lennart Nilsson from his book Behold Man published in the U.S. by Little, Brown & Co., Boston, 397, 1) NIBSC/SPL from Photo Researchers, 2) Manfred Kage from Peter Arnold. 399. 1) Martin M. Rotker, Phototake. 400, 1) Will McIntyre, Photo Researchers. 403, 1) Bruce Coleman Inc. 2) N.Y. State Library. 406. 1) E. R. Degginger. 407. 1) Clay Nolen, North Carolina Travel and Tourism. 2) Photographic Library of Australia. 408. 1) Photographic Library of Australia. 2) Grant Heilman. 409. 2) Ron Austing, Bruce Coleman Inc. 3) Tom McHugh, Photo Researchers. 410, 1) Mariners Museum, Newport News, Va. 411. 1) Roger Roland Fuhr, ROLANDesign, Los Angeles. 412. 1) Camera Press/Dorothy Wilding, 413, 1) Giuseppe Mazza, 2) Hans Reinhard, Bruce Coleman Ltd. 416. 1) Leonard Lee Rue III. 2) Nancie Battaglia. 417. 1) Alinari from Art Reference Bureau. 418. 1) Thomas Photos. 2) Randy Olson, His Image Photography, 420, 1) Penguin Collection, 2) Gerard Boutin, Explorer. 425. 1) Thomas B. Hollyman, Photo Researchers. 426. 1) Eberhard E. Otto, FPG. 428. 1) W. Fischer, FPG. 2) Chip and Rosa Maria Peterson, 429. 1) Victor Englebert, 431, 1) Grant Heilman, 2) Harry Rogers, Photo Researchers. 3) J. Allan Cash Photolibrary. 433. 1) Courtesy of Bolton Council. 2) Weimar Archive. 3) Department of Defense, 435, 1) ZEFA/Photri, 436, 2) Heeresgeschichtliches Museum, Vienna. 437.1) Robert Harding Picture Library. 438. 1) Spectrum Colour Library. 2) Image Bank. 3) Spectrum Colour Library. 439. 1) Spectrum Colour Library. 2) Image Bank. 3) Image Bank. 440. 1) Spectrum Colour Library. 2) Spectrum Colour Library, 441, 1) Hutchison Library/Carlos Freire. 2) ZEFA. 442. 1) Robert Harding Picture Library. 2) Hutchison Library. 443, 1) U.S. Air Force. 3) Boeing Defence Space Group. 445. 1) Hermann Bondi. 447. 1) Fred McConnaughey, Photo Researchers. 2) Kitty Kohout, Root Resources. 3) Peter Gonzales, 448. 1) Metropolitan Museum of Art, New York City. 449. 1) National Portrait Gallery, London. 2) Reproduced by permission of the trustees, the Wallace Collection. 451, 1) Hutchison Library/Melanie Friend. 452. 1) S. Rannels from Grant Heilman. 454. 1) Granger Collection, 2) Newberry Library, Chicago, 455, 1) British Library, 456, 1) British Library. 2) John M. Wing Collection, the Newberry Library, Chicago. 457. 1) John M. Wing Collection, the Newberry Library, Chicago. 458. 1) Edward E. Ayer Collection, the Newberry Library, Chicago. 461, 1) British Museum. 463. 1) Mark Boulton/Bruce Coleman, 2) Mary Evans Picture Library, 464. 1) Douglass Baglin. 465. 1) U.S. Borax. 2) Frank Fournier, Contact from Woodfin Camp. 466. 1) Brown Brothers. 2) Allsport. 469. 1) AP/Wide World. 470. 1) Brian Moser, Hutchison Library. 472. 1) Douglas Baglin. 2) Groeningemuseum, Bruges, Belgium. 474. 1) Ron Sanford, Black Star. 475. 1) Peter Northall, Black Star. 476. 2) Milton Feinberg, Stock, Boston, 477, 1) Engraving (1800s)

(Granger Collection). 478. 1) National Portrait Gallery, London. 479. 1) Eric Crichton/Bruce Coleman, 2) Gerald Cubitt/Bruce Coleman, 480. 1) Hank Morgan. 2) Ray Ellis, Photo Researchers. 3) Runk/Schoenberger from Grant Heilman. 483. 1) Tom Nebbia, Woodfin Camp Inc. 2) Tom Nebbia, Woodfin Camp, Inc. 485.1) SCALA/Art Resource, 486, 1) Eric Crichton, Bruce Coleman Ltd. 487. 1) Jules Bache Collection, 1949, 489, 1) Mary Evans Picture Library. 490. 1) CSIRO. 2) E. R. Degginger. 491. 1) Tom McHugh, Photo Researchers. 2) David R. Frazier Photolibrary. 493. 1) Pamela Harper. 2) Breck P. Kent, Earth Scenes. 3) ZEFA. 494. 1) UPI/Bettmann Archive. 495. 1) Bettmann Archive. 503. 1) Boy's Brigade. 504. 2) Sydney Morning Herald. 505. 1) Rex Features. 506. 1) Bradford Economic Development Unit. 507. 1) Library of Congress. 508. 2) Austrian Information Service, 509, 1) American Craft Council. 518. 1) David Barnes, Lensman. 2) Georgetown University Medical Center. 522. 1) SCALA/Art Resource. 2) Given by Mrs. Rodolphe Meyer de Schauensee, 524, 1) Claus Meyer, Black Star. 525. 2) Martin Rogers, Woodfin Camp, Inc. 6) Pamella McReynolds. 7) Hulton Deutsch Collection. 526. 1) European Picture Service. 2) Bridgeman Art Library, 527, 1) Claus C. Meyer, Black Star. 528. 4) Tom Hanley, 529. 1) Björn Klingwall. 532. 2) Loren McIntyre, Cher Photo Agency. 533. 1) Leo Hetzel. 2) Leo Hetzel. 534. 1) Jacques Jangoux, Peter Arnold. 2) Claus C. Meyer, Black Star. 535. 1) Jacques Jangoux, Peter Amold. 2) Milt & Joan Mann. 536. 2) Walter Rawlings, Robert Harding Picture Library. 3) Luiz Claudio Marigo, Bruce Coleman Ltd. 4) Dave Bartruff. 537. 1) Luiz Claudio Marigo, Bruce Coleman Ltd. 2) Loren McIntyre, Cher Photo Agency. 539. 1) Claus C. Meyer, Camera-Tres from Black Star. 540. 1) Loren McIntyre, Cher Photo Agency. 2) Camera-Tres from Black Star. 541. 1) Agence Hoa-Qui. 542. 2) Claus C. Meyer, Black Star. 543, 1) Claus C. Meyer, Black Star. 544. 1) Historical Pictures Service. 549. 2) Source U.S. Agricultural Research Service. 550. 1) Cameramann International from Marilyn Gartman. 2) Hans Reinhard, Bruce Coleman Ltd. 553. 1) Steven Kaufman, Bruce Coleman Ltd. 555, 1) Jos. Schlitz Brewing Co. 2) Pabst Brewing Co. 3) Anheuser-Busch, Inc. 556. 1) Alain Nogues, Sygma. 559. 2) Popperfoto. 560. 1) Spectrum Colour Library. 562. 1) Spectrum Colour Library. 2) L. L. T. Rhodes/Tony Stone Worldwide. 3) Collections/Brian Shuel. 4) Spectrum Colour Library, 5) Spectrum Colour Library. 6) Spectrum Colour Library. 563, 1) Spectrum Colour Library. 2) Spectrum Colour Library, 3) Spectrum Colour Library, 4) William Clark/Torry Stone Worldwide. 5) Spectrum Colour Library, 6) Spectrum Colour Library, 7) Spectrum Colour Library, 565, 1) Spectrum Colour Library, 566, 1) Vito Palmisano, 569, 1) Kurt Scholz, Shostal. 2) Kansas State Historical Society. 570. 1) The Mariners Museum. 571. 1) Photographic Library of Australia. 2) J. Allan Cash Photolibrary. 574. 1) Richard Desgrand. 577. 1) David Muench.

3) Viewfinder. 578, 1) Royal Mint. 579, 1) BBC Enterprises. 2) Berg & Associates. 582. 1) Brigitte and Jose Dupont, Explorer. 583. 1) Charles R. Seaborn. 584. 2) Photographic Library of Australia. 585. 1) Photographic Library of Australia, 586, 1) Paul Tavener, 588. 1) Purchase, 1966, Fletcher Fund. 2) Lucy Maud Buckingham Collection. Inductotherm Corporation. 4) St. Louis Art Museum, 5) Hirshhorn Museum and Sculpture Garden, Smithsonian Institution (SCALA/Art Reference). 589. 1) Leston Studio, London. 590. 1) Culver. 2) Hans Reinhard/Bruce Coleman. 591. 1) British Tourist Authority. 2) National Portrait Gallery. 592, 1) Historical Pictures Service. 2) The Kansas State Historical Society, Topeka. 593. 1) Photographic Library of Australia. 2) Lacz Lemoine, Natural History Photographic Agency. 594. 1) David G. Allen. 596. 1) Charles Behnke, Pix International. 597. 1) Royal College of Music. 599. 1) Culver Pictures. 600. 1) Sandro Gamma/Liaison. 2) Press Association. 602. 1) Hubertun Kanus, Shostal, 603, 1) Harris & Ewing, 2) Courtesy of the New York Historical Society. 604. 1) G. Leet. 605. 1) Heather Angel. 606. 1) BBC Hulton Picture Service. 2) Bettman Archive/The Hulton Deutsch Collection, 607, 1) Superstock, 608, 1) Robert Harding Picture Library. 609. 1) Spectrum Colour Library, 610. 2) Milton Keynes Development Corporation. 611. 1) Hans Reinhard, Bruce Coleman Ltd. 2) Kitty Kohout, Root Resources. 612, 2) Grant Heilman, 3) John Colwell from Grant Heilman. 613. 1) Shostal. 615. 1) H. Armstrong Roberts. 616. 2) Cameramann International. Ltd. 621, 1) Jacques Jangoux, 2) Shostal, 3) Eric Carle, Shostal. 622. 1) Leonard Lee Rue, NAS. 2) Jeff Foott/Bruce Coleman. 3) Bruce Coleman, 623, 1) Detail of an India ink and pencil sketch from Travels in the Interior of North America 1832/1834 by Prince Maximilian of Wied; the Schweitzer Gallery, New York City, 625, 1) Prato, Bruce Coleman Ltd. 626. 1) Larry Day. 2) Peter Gonzalez. 627. 1) Cameramann International Ltd. 628. 1) Dayton Superior Corporation. 629. 1) R. S. Uzzell, III, Woodfin Camp, Inc. 2) Simply Creative. 630. 1) Eric Carle, Shostal. 631. 1) Hutchison Library. 632, 2) E. R. Degginger. 633. 1) Hans Kramarz. 634. 3) Hans Kramarz. 636. 1) Hans Kramarz. 2) Hans Kramarz. 637. 1) Hans Kramarz. 640, 1) J. Ehlers, Bruce Coleman Inc. 2) Joe Craighead. Click/Chicago. 3) Lynn Sherwood. 641. 1) Fred Ward, Black Star. 2) Wilmshurst/Bruce Coleman. 643. 2) Edward S. Ross. 644. 1) Australian Picture Library. 645. 1) Photographic Library of Australia. 646. 1) The Frick Collection. 649. 1) Giuseppe Mazza. 2) Supreme Court Historical Society 652. 1) Australian News. 2) Painting by Bob Booth reproduced by courtesy of John Sands Promotional Products. 655. 1) Halperin, Monkmeyer. 656. 1) Terry Madison, The Image Bank. 659. 1) Fred Ward, Black Star. 660. 1) John Elk III. Bruce Coleman. 663.1) Cameramann International Ltd. 2) Detail of oil portrait by Alexander Nasmyth; National

Portrait Gallery, London. 664. 1) Brown Bros. 667. 1) F. and H. Schreider, Photo Researchers, 668, 1) Robert Harding Picture Library. 2) Norman Owen Tomalin/Bruce Coleman. 3) David Valdez, The White House. 669. 1) Markel/Frank Spooner Pictures/Gamma. 3) Rex Features. 670. 1) Photographic Library of Australia. 672. 1) National Library of Australia. 674. 1) International Stock Exchange Photo Library, London, 676, 1) A.N.T. (V. Griffiths/NHPA). 677. 1) Topham Picturepoint. 678. 1) Artstreet. 680. 1) Edward S. Ross. 681. 2) Edward S. Ross. 686, 1) Friedersauer, Bruce Coleman. 2) Kiell B. Sandved, Photo Researchers. 688. 1) John Shaw, Bruce Coleman. 5) David Overcash, Bruce Coleman. 690. 1) John Shaw, Bruce Coleman. 2) Edward S. Ross. 692. 1) John Markham, Bruce Coleman Ltd. 2) Mary Evans Picture Library, 694, 1) Wayne Lankinen/Bruce Coleman. 695. 1) Wide World. 697. 1) SCALA/Art Resource. 2) Alexandria-Princeton-Michigan Expedition to Mount Sinai. 698. 1) Raymond V. Schoder, S.J. 3) Hirmer Verlag, 699, 1) Raymond V. Schoder, S.J. 700. 1) Detail of a mosaic (probably late 900's) by an unknown artist in Hagia Sophia, Istanbul, Turkey; Ara Güler. 701. 1) SCALA/Art Resource. 2) Ara Güler. 702. 1) Werner Forman Archive/Biblioteca Nacional, Madrid, 2) SCALA/EP Inc.

· C-Ch

3. 2) Stephen Dalton, NHPA, 3) Ron Fotheringham, NHPA. 4) Edward S. Ross. 4. 1) Hulton Deutsch Collection, 6, 1) AT&T Corporate Archive. 3) Phil Huber, Black Star. 8. 1) Cabrini League. 9. 1) Richard Parker, NAS. 10. 1) Allan D. Cruickshank, NAS. 2) David Muench. 3) Norman Myers, Bruce Coleman Ltd. 4) Edward S. Ross. 5) Alan Pitcaim from Grant Heilman. 11. 1) Hulton Deutsch Collection. 13. 1) Oscar Savio. O. Bessin, Shostal. 16. 1) O. Bessim, Shostal. 17. 1) H. Fristedt, Carl Ostman. 2) Tony Linck, Shostal. 21. 1) Scottish Tourist Board. 2) Heather Angel. 22. 1) E.R. Degginger. 2) Culver. 23. 1) Erich Crichton/Bruce Coleman. 28.1) Orde Eliason, Link/IOI. 29. 1) Zefa. 2) Hutchison Library. 30. 1) Douglas Dickins. 2) Robert Harding Picture Library. 31. 1) Hutchison Library. 32, 1) Harvard College Library. 2) John Lewis Stage from Holiday Magazine 1959. 34. 2) Pierpont Morgan Library, New York City. 3) Pierpont Morgan Library, New York City. 35. 1) British Library. 38. 1) John Elk III. 2) Phil and Loretta Hermann, Hillstrom Stock Photo. 41. 1) Wide World. 2) Wide World. 42. 2) Rosenwald Collection. 45. 1) William Hamilton, Shostal. 47. 1) Bruce Coleman Inc. 2) Photoreporters Inc. 48. 1) Bernard Silberstein, Shostal, 49, 2) J. Allan Cash Photolibrary. 50. 1) Cambridgeshire County Council. 52. 1) George Holton, Photo Researchers, 53, 1) Ernst A. Weber, Photo Researchers, 2) P. J. Holloway, Photo Researchers. 3) Russ Kline, Photo Researchers. 54. 2) David Cain, Photo Researchers. 3) Milton Well Collection, gift of Mrs. Ethel Weil Worgelt, 1940. 57. 1) Canon

USA Inc. 2) Polaroid Corporation. 60, 2) Shostal. 61. 2) U.S. Air Force. 62. 1) C. M. Dixon, Photoresources. 64. 2) Cloisters Collection. 65. 1) Porterfield-Chickering, Photo Researchers. 66. 1) Robert Harding Picture Library. 2) Richard Rowan, Photo Researchers. 67. 1) National Trust, J. Whitaker. 68. 1) Girl Scouts of the USA. 2) Keith Gunnar, West Stock. 69, 1) National Trust, J. Whitaker. 70. 1) Thomas Kitchin, Tom. Stack & Assoc. 2) George Hunter, 71, 1) NFB Photothèque. 2) Boris Spremo, Lensman, 73. 1) Spectrum Colour Library. 2) George Hunter/Tony Stone Worldwide, 3) Image Bank, 78, 1) Camilla Smith, Rainbow, 2) David Burnett, De Wys, Inc. 79. 1) Photo Librarium. Canada. 80. 1) Neil A. Calandra, LGI. 2) National Film Board of Canada. 84. 1) NFB Photothèque, 85, 1) Eberhard E. Otto, Miller Services. 2) Photo Librarium, Canada. 86. 1) Gerry Souter, Van Cleve Photography. 2) George Hunter. 3) George Hunter. 88. 1) Bryce Flynn, Picture Group, 89, 1) Koos Dykstra, Image Finders. 90, 1) George Hunter, 92, 1) Hans Blohm, Miller Services. 93. 1) BGM Photo Centre Ltd. 95. 1) Photothèque. 97. 1) Confederation Life Collection. 98. 1) Royal Ontario Museum, Toronto. 101. 1) Public Archives of Canada, Ottawa (C168), 103, 1) Public Archives of Canada, Ottawa (C14464). 104. 1) Provincial Archives of Alberta, E. Brown Collection. 105. 1) Public Archives of Canada, Ottawa (PA 122765). 106. 1) Duncan Cameron, Public Archives, Canada. 107. 1) Canapress Photo Service. 109. 1) Travel Bureau, Michigan Commerce. 2) Emil Department of Schulthess, Black Star. 112.1) British Waterways Board, 113, 1) Hutchison Library. 114. 1) Photographic Library of Australia. 2) G & B Cheers, A.N.T./NHPA. 117, 1) Richard Desgrand. 118. 1) Custom Medical Stock Photo. 2) Lawrence Berkeley Laboratory. 122. 1) Royal Astronomical Society Library, 123, 1) Bettmann Archive. 124. 1) E. R. Degginger, Animals Animals. 125. 1) Flex Features. 126. 1) Paul Popper. 2) Culver. 127. 2) Nancie Battaglia, Duomo. 128. 2) Dan Helms, Duomo. 130. 1) Granger Collection. 131. 1) H. Ross FPG. 132. 3) Henry D. Meyer, Berg & Associates. 4) Photographic Library of Australia. 135. 1) Robert Harding Photo Library. 3) Walter Knirr. 138. 1) Walter Knirr. 2) Walter Knirr. 139. 1) Walter Knirr. 140. 1) Walter Knirr. 142, 1) Shostal. 147, 1) Wide World. 2) Mike Salisbury, Black Star. 3) Rex Features. 148. 1) Royal Astronomical Society Library. 149. 1) K. Wothe, Bruce Coleman Ltd. 2) Giuseppe Mazza. 150. 1) Picture Point. 2) Sally and Richard Greenhill. 3) J. Allan Cash Photolibrary. 151. 1) Ford. 2) Quadrant Picture Library. 3) Photographic Library of Australia. 152. 1) David R. Frazier, Photolibrary. 2) Max Farrell and Associates. 3) Paul Saloutos, The Stock Market. 159. 1) Andrew Sacks. 2) Andrew Sacks. 3) Andrew Sacks. 161. 1) Andrew Sacks. 163. 1) Ford Australia, 164, 1) Cameramann International Ltd. 165. 3) Source: American Automobile Association, 167, 1) Mercedes-Benz, 2) State Historical Society of Iowa. 3) Free Library of

Philadelphia. 168. 2) Smithsonian Institution. 3) Culver. 169. 1) General Motors. 2) AP/Wide World. 3) Motor Vehicle Manufacturers Association. 170. 1) Motor Vehicle Manufacturers Association. 2) Culver. 3) General Motors. 171. 1) Richard A. Brown from Car Collector. 2) Dennis Adler from Car Collector, 3)Motor Vehicle Manufacturers Association, 4) Dennis Adler from Car Collector. 5) Nickey Wright from Car Collector. 6) Dorothea Lange. 7) Car Collector. 8) Dennis Adler from Car Collector. 9) AP/Wide World, 172, 1) Motor Vehicle Manufacturers Association. 2) Motor Vehicle Manufacturers Association. 3) Motor Vehicle Manufacturers Association. 173. 2) Ferrari America. 3) Porsche Cars North America, Inc. 4) H. Armstrong Roberts, 5) UPI/Bettmann, 6) Lamborghini/A Chrysler Company. 7) Nissan Motor Corporation in U.S.A. 9) Motor Manufacturers Association. 174. 1) AP/Wide World. 2) AP/World Wide. 3) UPI/Bettmann. 175, 3) Chrysler Corporation, 4) Nissan, 5) Andrew Sacks. 176. 1) Quadrant Picture Library, 178, 1) Roy Ritola, Inc. 2) Radiauer Productions. 3) Radlauer Productions. 179. 1) Australian Picture Library, 181, 1) R. Mackson, FPG, 2) P. Boisvert, FPG, 182, 1) Thomas Zimmermann, FPG. 184. 1) E. R. Degginger. 2) Peter Steyn, Ardea. 185. 1) The Louvre, Paris. 186. 1) Coachmen Recreational Vehicle Company. 191.2) From the collection of the Playing Card Museum, United States Playing Card Co. 193. 1) Aerofilms, 195, 1) Cardiff City Council, 2) Walter Chandoha. 196. 1) Dan Sudia, Photo Researchers. 199, 1) Lithograph by James Giray; Bibliothèque Nationale, Paris. 2) Ink drawing by David Levine; reprinted with permission from The New York Review of Books, 1969 The New York Review. 3) Drawing by Oscar Berger, 200, 1) Frank Muth, Shostal. 2) Frank Muth, Shostal. 202. 1) Fionnbar Callanan. 2) James P. Rowan. 205. 1) U&U. 207. 2) Hans Reinhard/Bruce Coleman. 209. 2) G. R. Roberts. 210. 2) Brown Brothers. 212. 1) Culver. 2) Erich Hartmann, Magnum. 214. 1) DPI. 3) Juliet Highet, Hutchison Library, 215. 1) Huntington Library, San Marino, Calif. 216. 1) 1930 Henri Cartler-Bresson/Magnum. 2) Rube Goldberg, from King Features Syndicate, Inc. 217. 1) National Safety Council. 2) 1987 Universal Press Syndicate. Reprinted with permission. All rights reserved. 3) 1986 Chicago Tribune Company, used with permission, All rights reserved, 4) Drawing by Chas. Addams, 1986 The New Yorker Magazine, Inc. 220. 1) New York Public Library. 2) Collection of Howard P. Vincent, 3) SCALA/Art Resource, 221, 1) Brown Brothers. 2) Brown Brothers. 222. 1) Wolfgang Kaehler. 224. 1) Karsh, Ottawa. 226. 1) Paul Popper. 2) Australian News. 227. 2) NCR Corporation. 4) Ardea. 229. 1) Art Institute of Chicago. 3) Prato, Bruce Coleman Ltd. 4) Dr. Nigel Smith, Earth Scenes. 231. 2) Jim Pickerell. 3) Jim Pickerell. 232. 1) Signcast Corporation, Milwaukee, Wis. 233. 1) Paul Robert Perry. 235. 1) Steve Elmore, West Stock. 2) Bob and Ira Spring from West Stock. 236. 1) Mary Evans Picture Library.

237. 2) Spectrum Colour Library. 239.1) Crown Copyright. 2) ZEFA. 240. 1) Robert Harding Picture Library, 2) Robert Harding Picture Library. 241. 1) Crown Copyright. 2) National Portrait Gallery, 242, 2) Patrick Durand, Sygma. 243. 1) Hediye Kerman. 2) Hans Reinhard, 3) Pete Pearson, Van Cleve Photography. 4) Hans Reinhard. 249. 1) Spectrum Colour Library. 251. 1) Edward O. King, Alpha. 2) Hans Reinhard. 253. 1) Hans Reinhard/Bruce Coleman. 255. 1) Eric Crichton/Bruce Coleman. 256. 1) AC Rochester Division of GM. 2) Robert Harding Picture Library. 258.1) Mitchell Library. 2) M. Decet. 262. 1) J. Allan Cash Photolibrary. 265. 1) J. Allan Cash Photolibrary. 2) Britain on View, 266, 1) Steichen, courtesy Alfred Knopf. 2) Library of Congress. 3) Brown Bros. 268. 1) Bettman Archive/Hulton Deutsch Collection. 269. 1) Courtesy of the Natural History Museum, 3) Stephen Kraseman, DRK Photo. 270, 1) Grant Heilman. 271, 1) Grant Heilman. 272. 1) American Angus Association. 2) American Brahman Breeders Association. 3) Grant Heilman. 273. 1) Danny Weaver, Agri-Graphic Services. 2) Charlton Photos. 3) American Simmental Association. 274. 1) Danny Weaver, Agri-Graphic Services. 2) American Jersey Cattle Club. 3) Danny Weaver, Agri-Graphic Services. 275. 1) Agri-Graphic Services. 2) Danny Weaver, Agri-Graphic Services. 3) Danny Weaver, Agri-Graphic Services. 276. 1) Mark Boulton/Bruce Coleman. 277. 1) Grant Heilman. 278. 1) Hutchison Library. 279. 1) ZEFA. 282. 2) Bord Fáilte Éireann. 283. 1) Luray Caverns, Virginia. 285.1) Mark Wolinsky, Earth Impressions Photography. 287.1) Bettmann Archive, 2) Petrossian, Inc., New York City. 291.1) N. G. Blake/Bruce Coleman. 3) Claire Rydell. 293.1) Dr. Roman Vishniac, Publix. 2) Vorles Fisher. 3) Dr. Roman Vishniac, Publix. 4) General Biological Supply. 296. 1) General Biological Supply. 2) General Biological Supply. 3) General Biological Supply. 4) General Biological Supply. 297. 1) General Biological Supply. 2) General Biological Supply. 3) General Biological Supply. 4) General Biological Supply. 304. 1) National Institutes of Health. 2) National Institutes of Health. 305. 1) Kunsthistorisches Museum. Vienna. 307. 1) Ronald Sheridan. 2) Ronald Sheridan, 308.1) National Museum of Ireland. 309. 1) British Museum. 2) National Museum of Ireland, 310, 2) Lee Boltin, 312, 1) Aristreet. 316. 1) Bridgeman Art Library/Art Resource. 2) Animals Animals. 318. 1) Shostal. 322. 1) BP Oil. 323. 1) Scottish Tourist Board. 324. 1) Biophoto Associates from Photo Researchers. 325. 1) Giuseppe Mazza. 326. 2) Dick Luria, FPG. 3) Harbison-Walker Refractories. 329. 1) Bettmann Archive. 330. 2) Albert Hern Fund. 332. 1) Carl Purcell. 332,2,J. Alex Langley, Aspect Picture Library. 333. 1) Allen Carpenter, 334, 1) Tate Gallery, London, 335. 1) Pix. 336, 2) James Stevenson/Science Photo Library. 338. 2) United Press Int. 339. 1) Angabe A. Schmidecker Alpha. 340. 1) Stephen Dalton, Oxford Scientific Films. 3) Leonard Lee Rue III, Torn Stack & Associates. 341. 1) Brad Markel, Gamma Liaison. 342. 1)

J. Allan Cash Photolibrary. 345. 1) Topham. 347. 1) Andy Williams. 348. 1) Pictorial Parade, Wide World, 353, 1) Rex Features, 2) Reuters/Bettmann Newsphotos. 355. 1) E. Streichan, Shostal. 356. 1) Brown Bros. 357. 1) Michael Marcombe, NHPA, 359, 2) Peter A. Harding. 361. 1) Kunlo Owaki, The Stock Market. 363. 1) E. R. Degginger. 364. 1) Simply Creative. 366. 1) John Zoinar from Peter Amold. 2) A. G. E. Fotostock from Peter Arnold, 3) Dan McCoy, Rainbow, 367, 1) Ray Pfortner from Peter Arnold. 2) Dick Luria, Photo Researchers. 3) Dick Luria, Photo Researchers, 369, 1) Rogers Fund, 1931, 2) Granger Collection. 370. 1) Granger Collection, 371, 1) Granger Collection, 2) Granger Collection. 3) Lawrence Berkeley Collection, 372, 1) IBM, 2) Thomas J. Watson Research Centre, IBM. 375, 1) Brown Brothers, 376, 1) Aerofilms, 378, 1) Joe Viesti. 380. 1) Sefton Photo Library. 2) Chester Marketing Bureau. 381. 1) Imperial Chemical Industries. 382. 1) A. Nogues, Sygma. 385. 1) Brown Bros. 386. 1) Muriel and Arthur Norman Orans. 2) Northumberland National Park & Countryside Department/Terry Carrol. 388. 1) ZEFA. 389. 1) Wide World. 2) Wide World, 390, 1) Artstreet, 392, 1) Charles Lieberman, 2) Charles Lieberman, 394, 1) Robert Harding Picture Library. 2) Leonard Lee Rue III. 395, 1) J. Mechling, 397, 1) Grant Heilman, 2) Grant Heilman, 3) Poultry World, London, 4) Shostal, 5) Grant Hellman, 6) Grant Heilman. 7) Grant Heilman. 399. 1) Grant Heilman. 2) Grant Heilman. 3) Grant Heilman, 4) Grant Heilman, 5) John Colwell from Grant Heilman. 6) Grant Heilman. 7) Grant Heilman, 8) Charlton Photos. 401. 2) Karl Kummels, Shostal. 3) National Library of Australia, 403, 1) Phoebe Dunn, 2) Billy Barnes. 3) Daniel D. Miller, Tom Stack & Assoc. 406, 1) Jim Collins. 410, 1) Hulton Deutsch Collection. 412. 1) National 1) Home. 413. Geray Children's Sweeney/Impact Photos. 414. 1) Ric Ergenbright. 415. 1) Peter Gould, FPG. 416. 1) Ric Ergenbright. 418. 1) Ric Ergenbright. 2) Carl Purcell. 419. 1) Michael Minardi, Black Star. 2) Ric Ergenbright. 3) Jack Fields, Photo Researchers. 420. 1) F. Gohier, Photo Researchers. 421. 1) Hans Silvester, Photo Researchers. 423.1) Ric Ergenbright. 2) Hans Silvester, Photo Researchers, 3) Jack Fields, Photo Researchers. 425. 1) Museum of Modern Art of Latin America. 428. 1) Richard Wrangham, Anthro-Photo. 431. 1) Björn Klingwall. 2) Shostal. 3) Henry Weaver, Lensman. 433. 1) Spectrum Colour Library. 2) Spectrum Colour Library. 437. 1) New China Pictures, 2) Eastfoto. 438. 1) Steve Vidler, De Wys, Inc. 439. 2) Henry Herr Gill. 440. 1) Photri. 2) Björn Klingwall. 441. 1) K. Scholz, Shostal, 442, 1) Steve Vidler, De Wys, Inc. 2) Steve Vidler, De Wys, Inc. 4) Milt and Joan Mann. 443. 1) Cheng Zhishan, New China Pictures. 2) New China Pictures. 444. 1) Björn Klingwall. 446. 2) Nelson Fund. 447. 3) Nelson Fund. 448. 1) Avery Brundage Collection. 2) Steve Vidler, De Wys, Inc. 449. 2) Steve Vidler, De Wys, Inc. 450, 1 Jean DeLord, De Wys, Inc. 2) Photri. 452. 1)

Shostal. 2) Henry Herr Gill. 454. 1) Björn Klingwall. 456. 1) Emil Schulthess, Black Star. 2) Henry Weaver, Lensman. 457. 1) Henry Weaver, Lensman. 2) Steve Vidler, De Wys, Inc. 462. 1) Photoworld. 463. 1) Eastfoto. 464. 2) Eric Bouvet, Gamma/Liaison. 467. 1) Jane Burton, Bruce Coleman Ltd. 469. 1) John L. Severance Fund. 470. 1) John Gerlach, Tom Stack & Assoc. 474. 1) Robert A. Ross from E. R. Degginger. 478. 1) Bridgeman Art Library/Board of Trustees of the V&A. 481. 1) J. Barnell, Shostal. 2) Robert Harding Picture Library. 488. 1) Owen Franken, Stock, Boston. 2) Ted Spiegel, Black Star. 489. 1) Susan McCartney. 2) Gaston Malherbe from Louis Mercier. 3) Betty Crowell, Aloz Images. 490. 1) Netherlands Information Service. 2) Fred Ward, Black Star. 3) Fritz Prenzel. 491. 1) Michael A. Vaccaro from Louis Mercier. 2) Leon V. Kofod. 3) Victor Englebert, 494, 1) Robert H. Glaze, Artstreet. 495. 1) Hallmark Historical Collection. 497. 1) James Holmes/Celltech/Science Photo Library. 498. 1) Photo Researchers. 2) Baker, Lyman & Co. 3) Edward S. Ross. 499, 1) Giuseppe Mazza. 502. 1) Keith Ellis. 504. 1) Pacemaker Press. 505. 1) Wade Cooper Associates, courtesy of the Church of Scotland. 506. 1) Camera Press. 2) Reproduced by kind permission of His Grace the Duke of Mariborough. 3) Hulton Picture Library from Publix, 507, 1) Hulton Picture Library. 508. 1) United Press Ltd. 2) Wide World, 509, 1) Wide World, 3) United Press Int. 510. 1) Topham Picture Library.

Ci-Cz

2. 1) Gordon Grigg. 2) Gordon Grigg. 3) Alinari from Art Reference Bureau. 3. 1) Art Reference Bureau. 10. 1) Robert H. Glaze. Artstreet. 2) Susan Yivisaker, Jeroboam. 3) Michael Philip Manheim, 11. 1) Gerald L. French. 2) Bradley Smith, 12. 1) Ringling Bros and Barnum & Bailey. 2) Ringling Bros and Barnum & Bailey (Armando Gaona). 3) Florida Dept. of Commerce. 13. 1) Circus World Museum, Baraboo, Wis. 15. 1) Shepard Sherpell, Picture Group. 2) Jim Pickerell, FPG. 18. 1) Mireille Vaulier, Woodfin Camp. Inc. 19. 1) Georg Gerster, Comstock, 2) Tony Stone Photo Library-London. 3) S. E. Hedin, Carl Ostman. 4) Trygve Bolstad, Panos Pictures. 20. 1) J. Allan Cash Photolibrary, 21. 1) The University Museum, University of Pennsylvania. 2) British Crown copyright. 23. 1) American Museum of Natural History, 2) Deutsches Archäologisches Institut, Istanbul. 24. 1) Savio Oscar Fotograf, 25. 1) Brian Brake, Rapho Guillumette, 26. 1) Bibliothèque Nationale, Paris. 27. 1) The Bodieian Library. Oxford, England. 2) Newberry Library. Chicago. 28, 1) Bibliothèque Nationale, Paris. 30. 1) The Mansell Collection. 31, 1) Carnegie Library of Pittsburgh. 2) Aerofilms. 33. 1) California Div. of Highways. 34. 1) Chicago Department of Housing. 35. 1) S. E. Hedin, Carl Ostman. 2) Pictorial Parade, 43, 1) Crown Copyright, 45. 1) Mary Evans Picture Library. 2) Crown Copyright. 46, 1) Mansell. 48. 1) Mary Evans Picture Library. 2) Mary

Evans Picture Library. 50. 1) Edna Bennett, Photo Researchers. 2) George Laycock, Photo Researchers. 3) George Whiteley, Photo Researchers. 4) Kjell B. Sandved. 51. 2) Fionnbar Callanan, 52, 1) David R. Frazier. 55. 1) Owen Franken, Stock, Boston. 56. 1) Ken Firestone. 57. 1) Ken Firestone. 59. 1) Raymond V. Schoder. 2) Historical Pictures Service. 3) Granger Collection. 60. 1) SCALA/Art Resource. 3) Granger Collection. 61. 2) Historical Pictures service. 3) Granger Collection. 62. 1) Granger Collection. 2) Bettmann Archive. 3) All-Union Association Vneshtorgizdat, Moscow. 63. 1) Historical Pictures Service. 2) Historical Pictures Service, 65, 1) National Trust/J. Whitaker, 70, 2) Tony Tomsic, Sports Illustrated, Time Inc. 73. 1) Keystone. 75. 1) Mort Tucker Photography. 78. 1) David R. Frazier. 79. 1) Jeffrey Fox, Woodfin Camp, Inc. 2) Joe Rychetnik, Van Cleve Photography. 80, 1) Karl Muller, Woodfin Camp, Inc. 2) Victor Englebert. 88. 1) Bruno Barbey, Magnum. 3) Seymour, Magnum. Photographers International, 5) W. King, FPG. 89. 1) Marilyn Silverstone, Magnum. 2) Camera Press, Pix. 3) Van Bucher, Photo Researchers. 5) Bjorn Bolstad, Photo researchers. 90. 1) NASA. 91. 2) Jack Fields, Photo Researchers. 92. 1) David Moore, Black Star. 2) Berko, DPI. 3) Sabine Weiss, Rapho Guillumette. 4) Comstock. 5) George Holton, Photo Researchers. 6) George Holton, Photo Researchers. 7) Dennis Stock, Magnum. 93. 1) Van Bucher, Photo Researchers. 2) Frederick de Van from Nancy Palmer, 3) Marc Riboud, Magnum, 4) C. Knight, Photo Researchers, 5) Bruno Barbey. Magnum. 6) Cary Wolinsky, Stock, Boston, 7) Dean Brown from Nancy Palmer. 8) Marilyn Silverstone, Magnum. 96. 1) Charles Edwin Wilbour Fund. 3) Gift of Hagop Kevorkian (Robert S. Crandali), 99, 1) Bernard G. Silberstein from Rapho Guillumette. 100. 1) Raymond V. Schoder, S.J. 2) The Louvre, Paris. 3) Raymond V. Schoder, S.J. 102, 1) The Jules S. Bache Collection, 1949. 5) Raymond V. Schoder, 103, 1) Gift of H. G. Marquand. 2) Hubert Josse. 3) Hubert Josse. 4) Bulloz. 104. 1) Bulloz. 2) Hubert Josse, 3) Lauros-Giraudon. 4) Lauros-Giraudon. 105. 1) Bettmann Archive. 2) Photo Researchers, 3) Photoworld, 4) M.A. Keiler, The Stock Market. 107. 2) Marks and Spencer, 110. 1) Peter Black, Tom Stack and Associates. 2) Bernie Mendoza, Tom Stack & Assoc. 3) Van Bucher, Photo Researchers. 4) Van Bucher, Photo Researchers, 5) Russ Kinne, Researchers, 111, 1) Josef Muench, 2) Ray Brod. 3) Russ Kiune, Photo Researchers. 112. 1) Ray Atkeson. 3) Robert H. Glaze, Artstreet, 113, 1) Peter Arnold, 114, 1) W. H. Hodge from Peter Arnold. 2) George Whitely, Photo Researchers. 3) Grant Heilman, 115, 1) Ringling Bros. and Barnum & Bailey. 116, 1) E. R. Degginger. 2) E. R. Degginger. 3) R. W. Meyer. 121. 1) National Coal Association, 2) National Coal Association. 124. 1) Bucyrus-Erie Co. 128, 1) Consolidation Coal Co. 130. 1) National Coal Association, 2) Leo Touchet, The Photo Circle, 131, 1) Bucyrus-Erie Co. 2)

Bucyrus-Erie Co. 3) Bucyrus-Erie Co. 133, 1) Bettmann Archive. 134. 1) Warren Garst, Tom Stack & Assoc. 135. 1) AT & T Bell Laboratories. 136. 3) Wide World. 137.1) The Mitchell Library. 138. 1) Bord Fáilte Éireann. 140. 2) San Diego Zoo. 143. 1) Eric Hosking. 2) Russe Kinne, Photo Researchers, Inc. 3) Robert W. Mitchell, Earth Scenes. 144, 1) E. R. Degginger, Bruce Coleman. 145. 1) Australian Foreign Affairs & Trade Department. 2) AP/Wide World. 150, 1) The Conservative Association, Cambome. 151, 1) Penguin Books Ltd. 152. 1) National Federation of Coffee Growers of Colombia. 2) Giuseppe Mazza. 3) Dave Cormeir, DPI, 153. 1) Brian Seed, Tony Stone Images. 2) Elizabeth Harris, Tony Stone Images. 3) Loren McIntyre, Woodfin Camp Inc. 156. 2) Power House Museum, Sydney. 160. 1) United Press Int. 161. 1) AP/Wide World. 165. 1) Diane Pearce. 167. 1) Mark Boulton, Photo Researchers. 2) Heinz Herfort, Bruce Coleman, Inc. 168. 1) Carl Purcell, Tom Stack & Assoc. 169. 1) Chip and Rosa Peterson. 171. 1) Loren McIntyre, Cher Agency. 172. 1) Loren McIntyre, Cher Agency. 2) Victor Englebert, ZEFA. 173. 1) Loren McIntyre, Cher Agency. 182. 2) Bettmann Archive. 183. 1) Baptismal Certificate by Henrich Otto, Free Library of Philadelphia. 2) Colonal Williamsburg. 188. 1) Tom Algire. 189. 1) Denver & Colorado Convention & Visitors Bureau. 2) Grant Heilman. 190. 1) D. & J. Heaton, Colorific Photo Library Ltd. 2) Richard Dell. 191, 1) John Shaw, Tom Stack & Associates, 2) H. Armstrong Roberts, 3) Dwight R. Kuhn, Bruce Coleman Ltd. 4) Zig Leszaczynski, Animals, Animals, 192, 1) Helen Birch Bartlett Collection, 2) D. P. Hershkowitz, Bruce Coleman Ltd. 3) Colorsport, 200, 2) Munsell Color, Baltimore. 204. 1) Mary Evans Picture Library. 205.2) Randy de Puy, Tom Stacks & Associates, 208, 1) Spain '92 Foundation, 209, 1) U.S. Capitol Rotunda (U.S. Capitol Historical Society). 215. 1) Hank Kranzler, Oregon Shakespeare Festival. 2) European Southern Observatory. 222. 1) Allsport/Gray Mortimore. 223. 1) Simply Creative, 230, 2) Deutsches Museum, Munich, Germany. 3) Deutsches Museum, Munich, Germany. 231. 2) Bettmann Archive. 232. 1) American Antiquarian Society, Worcester, Mass. 2) Deutsches Museum, Munich, Germany. 233.1) Bettmann Archive. 2) Bettmann Archive. 3) Bettmann Archive. 234. 1) Bettman Archive, 2) Historical Picture Services. 3) The Marconi Co. 235. 1) Bettmann Archive. 2) Bettmann Archive. 3) British Broadcasting Corporation. 236. 1) Ampex Corporation. 2) American Telephone & Telegraph. 3) Paul Robert Perry. 241. 1) AP/Wide World, 2) Bettrnann Archive. 242. 1) Eastfoto. 2) UPI/Bettmann. 243. 1) AP/World Wide. 246. 2) M. Huet, Hoa-Qui. 252. 1) George Haling, Photo Researchers. 253. 1 Henley & Savage from The Stock Market 2) Bell Laboratories. 254, 1) Hank Morgan, Photo Researchers. 4) John O. Hallquist, Discover Publications. 255, 1) Brownie Harris, The Stock Market. 2) J. Wilson, Woodfin Camp Inc. 256. 1) Brownie Harris, The Stock

2) CNRI/SPL from Photo Market. Researchers. 256. 3) James Wilson, Woodfin Camp Inc. 257. 1) Lawrence Migdale, Photo Researchers. 260. 1) Astrid & Hans Frieder Michler/SPL from Photo Researchers. 262. 1) Hank Morgan, Photo Researchers. 263. 1) Mark Sherman, Bruce Coleman Inc. 265. 1) Bureau of the Census. 2) UPI/Bettmann News Photos, 271, 3) Dan McCoy, Rainbow, 273, 1) Jane Burton, Bruce Coleman Ltd. 275. 2) Valerie Taylor/Ardea, London. 279. 1) Peter Gonzalez. 285. 2) Frances Furlong/Bruce Coleman. 287. 1) IDA. 288. 1) IDA. 290. 1) Hulton Deutsch Collection. 294. 1) Grant Heilman. 2) Jean-Claude Lejeune, Black Star. 295. 1) Jonathan Blair, Woodfin Camp Inc. 296. 1) George H. Harrison, Grant Heilman. 297. 1) Steve Bunting. 2) Jerry Cooke, Animals Animals. 298. 2) Aluminum Company of America. 300. 1) Stacy Pick, Lensmen. 2) Bettmann Archive. 302. 1) Toby Molenaar, Woodfin Camp Inc. 303, 1) Photographic Library of Australia. 304. 2) Fred Ward, Black Star. 306.1) By courtesy of the Board of Trustees of the Victoria & Albert Museum. 313. 1) Michael Philip Manheim, West Stock. 314. 1) Skyscan Balloon Photography. 318. 1) Cameraman International Ltd. from Marilyn Gartman, 320, 1) National Library of Australia. 321. 1) National Library of Australia. 323. 1) Photographic Library of Australia. 324. 1) National Library of Australia. 326. 1) National Gallery of Victoria. 2) Australian Information Service, 327, 1) National Library of Australia. 2) Australian Information Service. 328. 1) Mitchell Library. 2) Douglass Baglin. 329.2) Mitchell Library. 330. 1) Mitchell Library. 333. 2) London Electricity. 3) Crown Stove Works; Chambers Corporation; Crown Stove Works. 334.1) Nawrocki Stock Photo. 2) Don Schenk, Nawrocki Stock, Photo, Cameraman International. 334. 4) Carlos Vergara, Nawrocki Stock Photo. 335. 1) United Press Int. 336. 2) Baltimore & Ohio Railroad. 337. 1) Photographic Library of Australia. 338. 1) Peter Ward/Bruce Coleman Ltd. 339.1) J. Messerschmidt, Bruce Coleman Ltd. 340. 1) Andrew W. Mellon Fund. 344. 1) Kennecolt. 345. 1) Photographic Library of Australia. 347. 1) Photographic Library of Australia. 348. 3) Douglas Faulkner. 349, 3) Douglas Faulkner. 350. 1) M.P.L. Fogden/Bruce Coleman. 352. 1) Spectrum Colour Library, 353, 1) Slide File. 355. 1) Odyssey Productions. 356.2) Stan Osolinski, The Stock Market. 359. 2) Andrew Besley, 360, 1) Andrew Besley, 361, 1) Jay M. Pasachoff. 362. 2) Bettmann Archive. 363. 1) Topham Picture Source. 365, 2) Douglass Baglin. 366. 1) Guy Gillette, Photo Researchers, Inc. 2) J. Allan Cash Photolibrary, 368, 1) Michael Virden, Shooting Star. 369. 1) Hutchison Library. 374. 1) Stuart Cohen, The Stock Market. 375. 2) R. Lyon, Alpha Photo Assoc. 378. 1) Ann Hagen Griffiths, DPI. 379. 2) Reinhold A. Eckelhoefer. E. Nagele, FRG. 380. 1) Tate Gallery. 2) Simply Creative. 381. 1) Anthony Cassidy, Tony Stone Images. 2) Webb AgPhotos. 382. 1) David Austen, Tony Stone Images. 384. 1) Edward S. Ross. 385, 1) Robert Harding Picture Library, 2) Robert Harding Picture

Library. 386. 1) Cameramann International Ltd. 2) Michael Freeman/Bruce Coleman. 387. 1) S. L. Craig Jr. Bruce Coleman Ltd. 2) S. L. Craig Jr, Bruce Coleman Ltd. 3) S. L. Craig Jr, Bruce Coleman Ltd. 4) Bill Barley, Shostal. 5) Bill Barley, Shostal. 6) Bill Barley, Shostal. 390. 1) National Museum of History and Technology. 2) Alice K. Taylor, Photo Researchers, 393, 1) Britain on View, 394, 1) Robert Harding. 395. 1) Country Music Foundation Library. 2) Richard Paley, LGI. 3) Opryland USA. 398. 1) Art Resource. 399.1) J. Robert, Jacana. 402. 1) J. Allan Cash Photolibrary. 3) Courtesy of Doubleday 403. 1) Robert Harding Picture Library. 2) Aerofilms, Ltd. 404. 1) Larry Field Pix. 407. 1) UPI/Bettmann Archive. 2) UPI/Bettmann Archive. 408. 1) UPI/Bettmann Archive. 410. 1) University of Queensland. 411. 2) Zig Leszczynski, Animals Animals, 3) Alan G. Nelson, Animals Animals, 413, 2) L. R. Dawson/Bruce Coleman. 415. 2) Fred W. Lahrman, Saskatchewan Museum of Natural History. 416. 1) Alfred A. Knopf, Inc. 417. 1) David Tarrant, Shostal. 2) John McGrail, Wheeler Pictures. 421. 1) Eric Hosking. 423. 1) Jean-Claude Cochet, Explorer. 425. 1) Photographic Library of Australia. 427, 1) Photographic Library of Australia. 431. 1) Press Association. 2) Topham Picture Source. 432. 1) Allsport/Adrian Murrell. Photographic Agency of Australia. 3) Photographic Agency of Australia. 433. 1) Allsport/Adrien Murrell. 2) Allsport/Ben Radford. 3) Allsport/Ben Radford. 435. 2) E. R. Degginger. 3) E. R. Degginger. 440. 1) Tass from Sovioto. 2) Mansell Collection. 443. 1) Slide File. 445. 1) Alexander Boulat, Sipa Press. 446. 1) Jonathan Blair, Woodfin Camp, Inc. 447. 3) Humanities Research Center, University of Texas, Austin. 449. 1) Dieter & Mary Plage/Bruce Coleman. 2) George Nelson, Artstreet. 450. 1) Fotomas Index. 2) Newnes and Pearsons. 451, 2) Crayon drawing by Samuel Cooper; Sidney Sussex College, Cambridge, England (Steam's and Sons).452. 1) Paul Popper. 2) CBS News. 455, 3) Allsport/Christine Lalla, 457, 1) Bruce Coleman. 2) W.S. Paton/Bruce Coleman. 3) Bruce Coleman. 458. 3) Lee Boltin. 4) Lee Boltin. 5) British Crown Copyright. 6) British Crown Copyright. 461. 1) Photographic Library of Australia. 471. 1) Mansell. 472. 2) J. A. Hancock, Photo Researchers. 473. 1) Fred Meyer from Woodfin Camp, Inc. 475. 2) Fred Mayer from Woodfin Camp, Inc. 478. 2) J.A. Hancock, Photo Researchers. 479. 1) Fred Meyer from Woodfin Camp, Inc. 481. 1) United Press Int. 482. 1) Grey Villet, Life Magazine, <<>> Time Inc. Kunstmuseum Bern, Hermann and Margrit Rupf Collection, COSMOPRESS, Genf. 486. 2) Jose Luis Gonzalez Grande/Bruce Coleman. 490. 1) Bruce McAllister, Black Star. 493. 1) Ray Cranbourne, Black Star. 494. 1) Chicago Tribune. 495. 1) Cumbria Tourist Board/Robert Harding Picture Library. 497.1) Marion Morehouse. 499. 2) Martha Swope. 500, 1) Hans Reinhard/Bruce Coleman. 501. 1) Bettmann Archive. 503. 1) Eric Carle, Shostal. 504. 1) Australian Foreign Affairs &

Trade Department. 505. 1) Mansell. 2) Fleay's Fauna Reserve. 506. 1) Oxford Scientific Films/John McCammon. 2) Waina Cheng Ward/Bruce Coleman. 3) Brown Bros. 507. 1) Australian Photo Agency. 2) Government House, 510, 1) Leverett Bradley, West Light. 514. 1) Ciganovic, FPG. 515. 1) Culver. 516. 1) Alphapress from Jeroboam, Inc. 2) Elliott Erwitt, Magnum, 517, 1) Oldrich Karasek from Peter Amold. 519. 2) V. Lefteroff, DeWys, Inc. 520. 1) E. Henriksson from Carl Östman. 2) Eric Lessing, Magnum. 3) James H. Karales from Peter Arnold. 521. 2) Oldrich Karacek from Peter Arnold. 522. 1) Kramarz, FPG. 523. 1) Shepard Sherbell, SABA. 525. 1) Photoreporters, Inc. 526. 1) Peter Turniey, Black Star.

D

2. 1) Popperfoto. 3. 1) Replica of lost original (1921); Museum of Modern Art, New York City, Gift of Galleria Schwarz. 2) Kim Taylor/Bruce Coleman. 5. 2) International Museum of Photography at George Eastman House. 7. 1) Grant Heilman. 9. 2) United Press Int. 10. 1) Squire Haskins Photography. Dallas. 11. 1) Artstreet. 12. 1) Ellis Sawyer, FPG. 13. 1) J. Allan Cash Photolibrary. 14. 1) Steve Solum, Bruce Coleman, 2) Dennis Stock, Magnum. 3) U.S. Army Corps of Engineers Fort Peck Project. 15. 1) Douglas Dickins. 16. 1) Robert Harding Picture Library. 2) Shostal. 17. 1) Martha Swope. 18. 1) National Library of Australia. 20. 1) Holt Studios/Nigel Cattlin. 21. 1) Alwin Nikolais Dance Theatre. 2) Ebett Roberts. 4) Marc & Evelyne Bernheim, Woodfin Camp, Inc. 22. 1) Jack Vartoogian, 23, 1) Martha Swope, 2) David Hum, Magnum. 24. 1) Jack Vartoogian. 25. 2) Henri Lhote's expedition document. 29. 2) Richard Desgrand. 30. 1) Roy and Betty-Anne Stenmark (Fox & Cook Photography). 31. 1) Oil painting on canvas; National Gallery of Art, Washington, D.C, Ailsa Mellon Bruce Fund. 33. 1) Australian News and Information Bureau. 35. 1) N.Y. Herald Tribune and Des Moines Register. 36. 1) Photographic Library of Australia. 2) Photographic Library of Australia, 39, 1)Tony Stone, 2) Brown Bros. 41.1) Microsoft Corporation. 42.1) Derek Fell. 2) Dan Porges, Peter Amold. 43. 1) Crispin and Scapin (after 1860) an oil painting on canvas; Louvre, Paris (SCALA/Art Resource). 44. 1) SCALA/EPA. 2) Detail of a fresco (1509) SCALA/Editorial Photocolor Archives. 45.1) Giraudon, 2) Mitchell Library, 46.1) A.S.P. from Tom Stack & Assoc. 47. 1) Sipa-Rex. 2) Photograph by Matthew Brady, National Archives, Washington, D.C. 48. 1) DUncan P. Schiedt. 49.1) Hulton Deutsch Collection. 51,1) Anthea Sieveking, Collections. 52. 1) 20th Century Fox/Morgan Creek (Courtesy Kobal). 53. 1) François Lochon, Gamma from Liaison. 58. 1) Mitchell Library. 2) Dennis Stock, Magnum. 59. 1) Photographic Library of Australia. 60. 1) Keith Gunnar, Bruce Coleman Inc. 63. 1) Culver. 64. 2) Allsport/Steve Powell. 65. 1) Oil painting on canvas (1863) by Alonzo Chappel, Chicago Historical Society. 72. 1) Yale University Art

Gallery. 76. 1) Spring Flowers Egg, an enamel and gold shell enclosing a basket of wood anemones made of gold, diamonds, garnets and chalcedony; the Forbes Magazine Collection, New York City. 77. 1) Wales Tourist Board. 78. 1) Fritz Prenzel, Pix from Publix. 2) Stephen Collins, N.A.S. 3) D. Lichtenberg, N.A.S. 80. 1) Konrad Wothe/Bruce Coleman. 81. 1) Harry Engels, N.A.S. 2) Frederick Balbwin, Photo Researchers. 83. 2) John Deere Co., Moline, Ill. 86.1) Wide World. 2) Wide World. 90. 1) Oil painting and newspaper on canvas (1956); Metropolitan Museum of Art, Rogers Fund, 1956. 92. 1) Corcoran Gallery of Art, Washington, D.C., William A. Clark Collection. 2) Spectrum Colour Library. 93. 1) Image Bank. 2) Image Bank. 94. 1) Spectrum Colour Library. 3) Tony Stone Photolibrary, London. 95. 1) Spectrum Colour Library, 3) Tony Stone Photolibrary, London. 96. 1) Image Bank. 2) Hutchison Library. 97. 1) Tony Stone Photo Library-London. 2) Hutchison Library, 98, 1) Glazed terracotta statue (about 1450); Museo Nazionale, Florence (SCALA/Art Resource). 99. 1) Eric Carle, Shostal. 100. 4) Fred Fehl. 106. 1) United Press Int. 108. 1) Travelpix from FPG. 109, 1) Thomas Nebbia, Woodfin Camp, Inc. 2) H. E. Harris & Co. 111. 1) Harvey Lloyd, The Stock Market. 2) Elvig Hansen, Biofoto. 112. 1) Shinichi Kammo, FPG. 113. 2) Danish Tourist Board. 3) Soren Koustrup, Biofoto. 115. 1) Bang & Olufsen. 116. 1) Roskilde Museum. 118. 1) The Mitchell Library. 120. 1) Northwestern University (Paul Baker). 2) Northwestern University (Paul Baker). 121, 1) Granger Collection. 2) The Mitchell Library. 123. 1) Michael Kline/Bruce Coleman. 124. 1) Culver. 126. 1) Photographic Library of Australia. 127. 1) Rolls-Royce/Jack Tilley. 129.1) R. & S. Michaud, Woodfin Camp, Inc. 130. 1) Oil portrait (about 1649) by Frans Hais; the Louvre, Paris (EPA/SCALA). 2) Fritz Prenzel. 132. 1) Derek Bayes, Photri. 136. 1) Mitsubishi/Cowin Collection. 138. 1) Conner Prairie, Indiana. 142. 1) Ford Motor Company. 144. 1) UPI/Bettmann Newsphotos. 147. 1) Paul Taverner. 149. 2) Brown Bros. 153. 1) John Reader. 3) By kind permission of the Controller of Her Majesty's Stationery Office, from Colorific. 5) Arnaud de Rosnay from Peter Schub. 6) Lee Boltin. 8) Giraudon. 9) By kind permission of the Controller of Her Majesty's Stationery Office, from Colorific. 154. 1) De Beers Consolidated Mines. 3) Gemological Institute of America. 155. 1) General Electric. 2) General Electric. 3) General Electric. 158. 2) Jan Hinsch, Science Photo Library. 3) Eric Grave, Science Photo Library. 4) Eric Grave, Science Photo Library. 5) Eric Grave, Science Photo Library. 6) Eric Grave, Science Photo Library. 7) Biophoto Association from Science Photo Library, 159, 2) Hans Reinhard, Bruce Coleman. 160. 1) The Dickens Fellowship, London. 161. 1) Collection of Mr and Mrs David Bradford, Chicago. 162, 1) City of Portsmouth. 163, 1) The Trustees of Amherst College, Amherst, Mass. 167. 1) Jill Krementz. 170. 1) United Press Int. 171, 1) E. R. Degginger. 173, 1) Eric Crichton, Bruce Coleman Ltd. 174. 1) Warren

Garst, Atoz Images. 2) Eric Gravé, Photo Researchers, 182, 2) University of Nebraska State Museum. 189.1) Ed Wheeler, The Stock Market. 2)Joseph Lynch, Medical Images. 191. 1) David Stewart-Smith/Impact. 193. 1) Rush-Presbyterian-St Luke's Medical Centre. Vogel/Frank 1) R. Pictures/Gamma. 199. 1) Stoke Mandeville. 2) John M. Hall. 200. 1) 1982 Walt Disney Productions. 2) Walt Disney Productions. 3) Walt Disney Productions. 201. 1) Walt Disney Productions. 4) Shooting Star Archives. 202. 1) National Portrait Gallery, London. 209. 1) Culver. 216. 1) Kay Honkanen. 217. 1) Robert Harding Picture Library, 218, 1) David Moore. 219. 1) Shostal. 220. 1) E. R. Degginger. 221. 1) Illustration by Cyrus Leroy Baldridge; reprinted by permission of Grosset & Dunlap. 228. 4) Marshall P. Hawkins. 229. 1) Hans Reinhard, Bruce Coleman. 230. 2) Water colour (1932); the Baltimore Museum of Art, Saidie A. May Collection. 3) Fritz Prenzel/Bruce Coleman, 6) Marc Henrie, 231, 5) Robert Harris, Briard Club of America, 7) Roberta Whitesides. 233. 5) Marc Henrie. 240. 1) E. James Pitrone, The Seeing Eye, Inc. 2) Judy Savage. 242. 1) Louise K. Broman, Photo Researchers. 2) Jeffrey W. Myers. 244. 1) Margaret Woodbury Strong Museum, Rochester, N.Y. 245, 1) The Metropolitan Museum of Art, New York (Lisa Little). 2) Margaret Woodbury Strong Museum, Rochester, N.Y. 246. 1) Newark Museum, New Jersey. 252. 1) Torn Stack. 2) Lewis Wayne Walker. 253. 1) Wometco Miami Seaquarium. 254. 1) SCALA/Art Resource. 255. 1) Fritz Henle, Photo Researchers, 262. 1) J. Allan Cash Photolibrary. 263. 1) Art Resource, 264, 1) SCALA/Art Resource, 265, 1) Fionnbar Callanan. 266. 1) N. G. Blake/Bruce Coleman. 268. 1) 1887 Cassell Publishers. 269. 1) Britain on View. 271. 1) Pictorial Parade. 273, 1) J. W. Hurn, Library of Congress. 2) Grant Heilman. 274. 1) Grant Heilman. 275. 1) By courtesy of the Dover Harbour Board. 277. 1) Fionnbar Callanan. 278. 1) Mary Evans Picture Library. 279. 1) Orsanmichele. Florence (SCALA/Art Resource). 282. 1) Water colour by Gregory Robinson, National Maritime Museum, Greenwich, England. 283. 1) Graham Keats. 284. 1) Tony Van Bridge as Falstaff (De Wys). 2) William Hutt as Tartuffe, Stratford Festival Theatre. 3) Dustin Hoffman as Willy Loman (Inge Morath, Magnum). 285. 1) Orion Press. 286. 1) Ruins of the ancient Greek theatre at Epidaurus (David Seymour, Magnum). 2) Illustration from Antike Crieschische Theaterbauten by Robert Fiechter, courtesy University of Chicago Library. 287. 1) Roman copy of a Greek marble bas relief of 100s or 200s B.C., courtesy of Vatican Museums (Raymond Schoder, S.J.). 288. 1) Marble relief sculpture showing a Roman adaptation of Greek New Comedy, National Museum, Naples, Italy (SCALA/Art Resource), 289, 1) Manuscript illustration by Hubert Cailleau, courtesy Bibliotheque Nationale, Paris. 2) Illustration from A Dissertation on the Pageants or Dramatic Mysteries Anciently Performed at Coventry by Thomas Sharp,

courtesy Oscar G. Brockett. 290. 1) Pantalogn Serenading His Mistress (about 1580) an oil painting on wood panel by an unknown artist showing, left to right, the heroine, Harlequin, Pantaloon and Zanni. Drottningholms Teatermuseum, Stockholm. 291, 1) Serlio's design for comedy from The First Book of Architecture, courtesy Newberry Library, Chicago. 292, 1) Detail from a painting (about 1597) by an unknown artist of a wedding masque during a banquet at the house of Sir Henry Unton, National Portrait Gallery, London. 293. 1) Illustration by Juan Comba from El Corral de la Pacheca by Ricardo Sepulveda, courtesy University of Chicago Library. 294. 1) David Garrick and Mrs Pritchard in Macbeth, detail from a painting (about 1770) by Johann Zoffany; Garrick Club, London. 295. 1) School of Drama Library, Yale University. 296. 1) Edward B. Harper, University of Washington, Seattle. 2) Scene from The White Serpent; Prof. Josephine Huang Hung, National Taiwan University, Taipei, Taiwan. 297. 1) Woodcut (1800-1803) by Utagawa Toyokuni, The British Museum, London. 2) Woodcut (1800-1803) by Utagawa Toyokuni, The British Museum, London. 3) Woodcut (1800-1803) by Utagawa Toyokuni, The British Museum, London, 299, 1) Courtesy of The Theatre Collection, New York Public Library at Lincoln Center, Astor, Lenox and Tilden Foundation. 2) Deutsches Theatermuseum. 300. 1) Bert Lahr, left, and E. G. Marshall, right, in a scene from Waiting for Godot By Samuel Beckett; Elliot Erwitt, Magnum. 301. 1) Photostage. 303. 1) Portrait of Isabella Brant (about 1625); The British Museum, London. 2) Color Intervals at Provincetown (1943); Addison Gallery of American Art, Phillips Academy, Andover, Mass. 304, 1) Landscape with Satyr (early 1500s) attributed to Titian; The Frick Collection, New York City. 4) Preliminary study for the portrait Comtesse d'Haussonville (1845); The Frick Collection, New York City. 305. 1) The Locomotive (1923); Philadelphia Museum of Art, the Harrison Fund. 306. 1) Peter Arnold. 307. 1) Hard-paste porcelain by Johann Kändler; Art Institute of Chicago. 309. 1) Bord Fáilte Éireann. 310. 1) Hutchison Library. 318. 2) Nancy Palmer Photo Agency Inc. 320. 1) Sumerian clay tablet; University Museums, University of Pennsylvania. 325. 1) Pamela McReynolds. 3) Cameramann International. 326. 1) David A. Frazier. 328. 1) Photographic Library of Australia. 2) Sygma. 3) Detail of portrait by Madame Vigée-Lebrun, private collection. Bulloz from Art Reference Bureau. 329, 1) Fionnbar Callanan. 331, 1) The 79 Slide File. 333, 1) Fionnbar Callanan. 334. 1) Wide World, 335. 1) Louise and Walter Arensberg Collection, 336, 1) Dr Paul A. Johnsgard. 337. 1) Shelduck illustration by John F. Eggert; other illustrations by Athos Menaboni. 338. 2) Walter Chandoha. 339. 1) Bell Aerospace Textron. 340. 1) Mary Evans Picture Library. 342. 1) Watercolour (1930): the Baltimore Museum of Art, Saidle A. May Collection. 344. 1) Chicago Historical Society. 2) Chicago Historical Society. 345.1) Britain on View. 346 1) Scottish Tourist Board. 347. 1)

Slide File. 348. 1) The Dance Collection, New York Public Library. 2) Bord Fáilte Éirearn. 349. 1) Ronald W. Falk. 350.1) New York Public Library, 351, 1) Popperfoto, 352, 1) A. D. Cushman & Assoc. 2) J. Allan Cash Photolibrary. 353. 1) Paumgartner Altarpiece; Pnakothek, Munich, Germany (SCALA/Art Resource). 2) The Prado, Madrid. 354. 1) J. Allan Cash Photolibrary356. 1) Bettmann Archive, 357, 2) AP/Wide World, 360, 1) Margaret Thomas, The Washington Post. 361. 1) M.P.L. Fogden, Bruce Coleman Inc. 362, 1) Adam Woolfitt, Woodfin Camp Inc. 2) Chip Hires/Frank Spooner Pictures. 363. 1) Forestry Commission. 364. 1) Celtic Picture Agency.

2, 1) Topham. 6. 1) Philadelphia Museum of Art. 2) Herman Miller Archives. 14. 1) Kansas State Historical Society, Topeka. 15. 1) Camilla Jessel, 2) Montgomery Foto Service. 16, 1) NASA, 17, 1) Globes Rand McNally & Co. 2) Globes Rand McNally & Co. 20. 2) A.W. Ambler NAS Photo Researchers. 3) Lee Boltin. 22. 1) Jo-Ann Ordano. 2) David Muench. 23. 1) David Muench. 2) Stephen Krasemann, Photo Researchers. 3) Tom McHugh, Photo Researchers. 26. 1) David Muench, 28, 3) Annan Photo, 4) Josef Muench. 29, 3) Slim Aarons, Photo Researchers. 4) Fritz Henle, Photo Researchers. 33. 1) Edami Rad. Gammon/Liaison. 2) Park Snavely, US Geological Survey. 37. 1) Robert Harding Picture Library. John K. Nakata, US Geological Survey. 38. 1) John K. Nakata, U.S. Geological Survey. 42. 1) Fresco (early 1460s) by Piero della Francesca; Editorial Photocolor Archives. 2) Robert Harding Picture Library. 43. 1) Brian Seed, Click/Chicago. 2) Blair Seitz, Editorial Photocolor Archives. 44. 1) Costa Manos, Magnum. 2) Ronald Sheridan. 47. 1) Cathedral of the Holy Trinity, New York City; Panos Papanicolaou, Greek Orthodox Archdiocese, 50, 1) Indelible Inc. 2) Norman R. Lightfoot, Photo Researchers. 51. 1) Zig Leszczynski, Earth Scenes. 2) A-Z Collection. 3) Fritz Prenzel. 52. 1) Graham Lenton/Aquila. 2) Jane Burton/Bruce Coleman Inc. 54, 1) Dennis Milon. 56. 1) Henry Austoos, Animals Animals. 2) Jane Shaw, Bruce Coleman. 66. 1) Barclays Bank. 67. 1) Bob Kelly, Photo Researchers. 68. 1) Stephanie Dinkins, Photo Researchers. 69. 1) Bjorn Bolstad, Photo Researchers. 2) Stephanie Dinkins, Photo Researchers. 70. 1) Carl Frank, Photo Researchers. 72. 2) Stephanie Dinkins, Photo Researchers. 73. 1) Stephanie Dinkins, Photo Researchers, 75, 1) British Information Services. 76, 1) Britain on View. 2) Brown Brothers. 77. 1) Aerofilms. 81. 1) Photo of Thomas Edison in 1878; National Park Service. 83. 1) George Roos, DPI. 85. 1) Panos Pictures/Bruce Paton. 93. 1) Mary Evans Picture Library. 94. 2) Visual Educ. Serv. 100. 1) Robert Frerck, Woodfin Camp. 2) J. Allan Cash Photolibrary. 101. 1) Marc

Bernheim, Woodfin Camp, Inc. 102. 1) Marc

Bernheim, Woodfin Camp, Inc. Gamma/Frank Spooner Pictures. 103. 1) Robert Harding Picture Library, 2) Hutchison Library. 3) Robert Harding Picture Library. 4) Hutchison Library. 109. 1) Norman Owen Tomalin, Bruce Coleman Ltd. 2) Erich Lessing, Magnum. 3) Thomas Nebbia, Woodfin Camp, Inc. 111. 1) Thomas Nebbia, Woodfin Camp, Inc. 2) Abbas, Magnum. 113. 1) Topham from The Image Works. 114. 1) Albert Moldvay, PSI FotoFile. 3) Carl Purcell. 116. 1) PIP. 118. 1) Wide World. 2) Owen, Black Star. 124. 1) Brian Break, Photo Research. 125, 1) Lee Boltin. 2) Lee Boltin. 3) Lee Boltin. 126. 1) Egyptian Museum, Cairo (Giraudon/Art Resource). 2) M. Timothy O'Keefe, Bruce Coleman Inc. 3) John G. Ross, Robert Harding Associates. 127. 2) Erich Lessing, Magnum. 3) Detail of a mosaic Alexander the Great at the Battle of Isso (150) B.C.): National Museum of Naples, Italy (SCALA/Art Resource). 130. 1) Eric Crichton, Bruce Coleman Ltd. 2) Karsh, Ottawa. 132. 1) Karsh, Ottawa. 133. 1) United Press Int. 2) Dwight D. Eisenhower Library. 134. 1) Dwight D. Eisenhower Library. 137. 1) Andy Williams. 141. 1) General Motors. 3) William F. Harrah Automobile Museum. 145. 1) David R. Frazier. 149. 1) Mary Evans Picture Library. 150. 1) Tony Stone Photo Library, London. 157. 1) Artstreet. 2) Artstreet. 163. 1) Electric Railroad Assn. 2) Christian Delemarre, Societe Nationale des Chemins de fer Français.171. 1) Ann Ronan Picture Library. 2) Bettmann Archive. 3) Ann Ronan Picture Library. 180. 1) Humberto Fernandez-Moran, University of Chicago. 2) Manfred Kage from Peter Amold, 181, 1) Chad Slattery, 182, 1) Art Directors Photo Library. 2) Marconi. 183.1) E. Hartmann, Magnum. 2) David Lawrence, The Stock Market. 3) NASA. 4) David Lawrence, The Stock Market. 191. 1) Cameramann International, 202, 1) Cynthia Moss. 206, 1) C. Haagner, Bruce Coleman Inc. 2) Peter Davey, Bruce Coleman Inc. 207. 1) Peter Davey, Bruce Coleman Inc. 2) Norman Myers, Bruce Coleman Inc. 211. 1) Culver. 2) Kay Bell. 212. 1) Oil painting on canvas; the Marquess of Salisbury, Hatfield House. 213. 1) Fox Photos. 214. 1) British Information Service. 2) Erma/Camera Press. 3) Stewart Mark, Camera Press. 216. 1) Jim Brandenburg, Woodfin Camp, Inc. 2) Down Beat Magazine. 218. 1) William M. Harlow, Photo Researchers. 2) Richard Parker, Photo Researchers. 219 1) Jane Burton/Bruce Coleman. 220. 1) Bruce Coleman. 221. 1) Yoram Kahana from Peter Arnold. 223. 1) Bruce Coleman. 3) Carl Frank, Photo Researchers. 225. 1) J. Allan Cash Photolibrary. 228. 1) Natural History Museum. 229. 1) Painting by David Scott, Concord Free Public Library, Concord, Mass. 230. 1) Details of an engraving (about the 1830's) by Thomas Kelly; Bettmann Archive. 232. 2) Robert Harding Picture Library. 233. 1) Photographic Library of Australia. 2) Casket (early 1500s), 18 cm long; The Art institute of Chicago. 234. 1) Detail of the cover of a book of the Gospels showing Jesus conducting the good thief to heaven; Treasure of the Dome, Milan

(SCALA/Art Resource). 235. 1) Fotomas Index. 244. 1) Evanston Hospital. 1) Ron Church, Tom Stack & Assoc. 2) University of Chicago Medical Center. 2) U.S. Department of Energy. 3) Georg Gerster, Rapho Guillumette. 246. 1) ZEFA. 2) ZEFA. 248. 1) Spectrum Colour Library. 2) Spectrum Colour Library. 251. 1) NASA/Science Source from Photo Researchers. 2) Marville Sales Corporation. 252. 1) Los Alamos Scientific Laboratory. 253. Historical Pictures Service. 254. 1) Jim Pickerell. 2) Dan McCoy, Black Star. 255. 1) David R. Frazier. 2) Hans Namuth, Photo Researchers. 3) Sepp Seitz, Woodfin Camp. 256. 1) Gary Milburn, Tom Stack & Assocs. 2) Cameramann International. 3) Odyssey Productions. 257. 1) Q. A. Photos. 2) ZEFA. 3) Model Instruments Company (Tom Kirkendall). 258. 1) Mark Antman, Image Works. 2) Cameramann International Ltd. 261, 1) ZEFA, 262, 1) Ron Oulds, Robert Harding Picture Library. 2) Robert Harding Picture Library. 266. 1) Davies, ZEFA. 267. 1) Hugh Routledge, Robert Harding Picture Library. 268. 2) M. H. Black, Robert Harding Picture Library. 269. 1) Ron Cartmell, Bruce Coleman Ltd. 270. 1) Robert Harding Picture Library. 2) Telegraph Colour Library from FPG. 272. 1) J. Reznicki, The Stock Exchange, 274, 1) ZEFA, 278, 1) Bettman Archive. 281. 1) Diane Pearce. 295 1) Melancholia (1514) by Albrecht Durer; National Gallery of Art, Washington, D.C., Gift of R. Horace Gallatin. 296. 2) Madonna and Child (about 1470) by Andrea Mantegna; the Metropolitan Museum of Art, New York City, Elisha Whittelsey Fund, 1952. 3) Detail of The Two Sisters (1932) by Étienne Cournault; Bibliothèque Nationale, Parls (Mme. Simon-Cournault). 297. 1) Detail of Demons Tormenting Me (1888) a pencil and black chalk drawing; The Art Institute of Chicago, the Ada Tumbull Hertle Fund. 299. 1) Leonard Lee Rue/Bruce Coleman. 2) Stephen J. Krasemann/Bruce Coleman. 300. 1) Ralph Crane, Life, Time, Inc. 2) Hugh Rogers, Monkmeyer. 3) David Muench, Van Cleve Photography. 301. 1) Hans Reinhard/Bruce Coleman. 315. 1) Betty Press. 2) Britain on View. 316. 1) Grant Heilman. 2) Artstreet. 3) Grant Heilman. 4) G. R. Roberts. 5) Photographic Library of Australia. 317. 1) Vamished Tempera portrait on linden wood (1532) by Hans Holbein the Younger; Kunstmuseum, Basel, Switzerland. 321. 1) Betty Press. 2) Britain on View.322. 1) Grant Heilman. 2) Artstreet. 3) Grant Heilman. 324. Education Development Center. 2) Education Development Center. 325. 1) Education Development Center. 327. 1) Britain on View. 329. 1) Bank of England. 331. Gary Matoso, Contact Press. 333, 2) Francois Gohier, Explorer.334. 2) Black Lion Wharf (1859); Art Institute of Chicago, Charles Deering Collection. 336. 1) Tass from Sovfoto. 337. 2) François Gohier, Explorer. Collection. 339. 1) A. Tessore, Shostal. 340. 1) E. Streichan, Shostal. 2) Zweli, Gamma/Liaison. 343. 1) Hutchison Library. 2) Hutchison Library. 3) Spectrum Colour Library. 345. 1) The Metropolitan Museum of Art, New York

City, Harris Brisbane Dick Fund. 2) Purchase-Alpheus Hyatt Fund and 24 Friends of the Fogg Art Museum, Cambridge, Mass. 3) Field Museum of Natural History. 4) Vatican Museums (SCALA/Art Resource). 347. 1) Photographic Library of Australia. 2) Photographic Library of Australia. 353. 1) Detail of an engraving after a painting by Winterhalter, British Museum, London, 3) Weimar Archive. 355, 1) National Library of Australia, 2) The Rape of Europa (1600s), a copy of a lost original by Guido Reni; Musee des Beaux-Arts, Tours, France (J. J. Moreau). 356. 1) Adam Woolfitt, Woodfin Camp, Inc. 2) John Elk, Bruce Coleman Inc. 357. 1) Taurus from Campagne-Campagne. 358. 1) Adam Woodfin Camp, Woolfitt, Inc. Gamma/Frank Spooner Pictures. 363. 1) ITAR-Tass from Sovfoto, 2) David Moore, Black Star. 3) Kevin Galvin, Bruce Coleman Inc. 4) Richard W. Wilkie, Black Star. 5) Louis Goldman, Rapho Guillumette. 7) Dan McCoy, Black Star. 364. 1) Robert Frerck, Woodfin Camp. 2) Mike Yamashita, Woodfin Camp. 365. 1) Rus Amold. 2) Vince Streano, The Stock Market. 367. 1) Gordon Gahan. 2) Adam Woolfitt, Woodfin Camp. 368. 1) Ronald Sheridan, 1) Ronald Sheridan, 369, 1) David Moore, Black Star. 370. 1) Adam Woolfitt. Woodfin Camp. 2) Editorial Photocolor Archives. 3) H. Herfort, Bruce Coleman. 4) Sven-Erik Hedin from Carl Östman. 371, 1) Bernard Wolf, DPI. 2) J. Alex Langley, DPI. 377, 1) Dennis Brack, Black Star. 2) Dan Budnik, Woodfin Camp, Inc. 3) J. Zopp from Carl Östman. 379. 1) John Launols, Black Star. 2) Volkswagenwerk AG. 381. 1) Erich Hartmann, Magnum. 2) Adam Woolfitt, Woodfin Camp. 383. 1) Bruno Barbey, Magnum. 2) Norman Benton from Peter Arnold. 387. 1) Stone relief (A.D. 200's or 300's) from the tomb of the Haterii family; Museo Gregoriano Profano, (SCALA/Art Resource). 2) 'September' by the Limbourg brothers, from the Duc de Berry's Très Riches Heures, an illuminated French manuscript of the 1400's; Musée Condé, France (Bibliothèque Nationale, Paris). 389. 1) Detail of Opening of the Glasgow and Gamkirk Railway, 1831, a lithograph by David Octavius Hill; Science Museum, London. 391. 1) United Press Int. 392, 1) Robert Wallis, Sipa Press. 402. 1) Model in Smithsonian Institution, Washington, D.C. 406. 1) C.C. Lockwood, Earth Scenes. 2) Breck P. Kent, Animals Animals, 3) Bertram G. Murray, Animals Animals. 4) Michael Fogden, DRK Photo. Jeff Foot, DRK. 5) Jeff Foott, DRK Photo. 408. 1) Alan G. Nelson, Animals Animals. 410. 1) WORLD BOOK illustration by Pamela J. Wynne, adapted from Darwin's Finches by David Lack used with permission of Cambridge University Press. 411. 1) Kerry T. Givens, Tom Stack & Son. 2) M. W. F. Tweedie, Photo Researchers. 3) M. W. F. Tweedie, Photo Researchers. 423, 2) Detail of an oil painting on canvas (1857) by Sydney King; National Park Service, Colonial National Historical Park. 428. 1) Thomas J. Abercrombie National Geographic Society, 2) National Geographic Society. 429. 1)

Uniphoto. **442.** 1) Chet Szymecki, Phototake. 2) Bob Hahn, Taurus. **445.** 1) The Mitchell Library. **446.** 1) Tourism South Australia.



5. 1) Lockheed-California Co. 6. 2) Granger Collection. 3) Granger Collection. 7. 1) Spectrum Colour Library. 8. 1) Bettmann Archive. 9. 1) National Portrait Gallery. 11. 1) John Fennell/Bruce Coleman. 12. 1) Ron Austing, Photo Researchers. 2) Ron Austing. 19. 1) Doug Wilson, Black Star. 2) U.S. Department of Agriculture. 3) Jonathan T. Wright, Bruce Coleman. 4) Edward S. Ross. 20. 1) Edward S. Ross. 22. 1) Photograph (1908) by Lewis Wickes Hine; International Museum of Photography, Rochester, N.Y. 23. 1) Edward S. Ross. 25, 1) W. Campbell. Sygma. 26. 1) The Metropolitan Museum of Art, New York City, gift of Miss Ella Mabel Clark, 1948. 27. 1) Royal Institution. 28. 1) Museo Nazionale, Naples (SCALA/Art Resource). 30. 1) Popperfoto. 32. 1) Bettmann Archive. 2) Brown Bros. 35, 1) Chas Hornbrook from David Phillips. 36. 1) J. Allan Cash Photolibrary, 37, 1) Wide World, 2) Ronald Sheridan. 38. 1) Oil painting; the Museum of Modern Art, New York City. 40. 1) Photri. 2) Steve Vidler, De Wys Inc. 3) Steve Vidler, De Wys Inc. 4) Bettina Cirone, Photo Researchers. 41. 2) The Australian Museum. 45. 1) National Library of Australia, 46. 1) Mitchell Library. 2) National Library of Australia. 47. 1) Mitchell Library. 2) Mitchell Library. 49. 1) Culver. 51, 2) Antony Mercieca, Photo Researchers, 52, 3) Doubleday, 53, 1) Fionnbar Callanan. 55. 1) University of Chicago Press. 56, 1) Terry E. Eiler, Stock, Boston. 2) L. West, Bruce Coleman Inc. 3) O. Franken, Stock, Boston, 4) Bill Tronca, Tom-Stack & Assoc. 5) Robert and Linda Mitchell. 58. 1) Chicago Historical Society. 2) Harald Sund. 60. 1) Grant Heilman. 2) J. C. Allen & Son. 61. 1) Alan Pitcairn from Grant Heilman. 2) Odyssey Production. 62. 1) Archives Cénérales du Royaume, Brussels. 63. 1) Bodleian Library. 65. 1) California Institute of Technology. 66. 1) Science Photo Library from Photo Researchers. 2) Michael Abbey, Photo Researchers. 68. 1) Coming Glass Works. 71. 2) Walter Chandoha. 3) Keystone. 4) Penguin Photo. 73. 1) Britain on View. 75. 1) Heather Angel, Biophotos. 77. 1) Australian Picture Library. 2) Photographic Library of Australia. 78. 1) Douglas Baglin. 79. 1) E. R. Degginger. 80. 1) Clockwise from lower left; Bettmann Archive; Walt Disney Productions; RKO Radio Pictures; 20th Century Fox Film Corp; Culver Pictures. 2) Clockwise from lower left: Bettmann Archive; Walt Disney Productions; RKO Radio Pictures; 20th Century Fox Film Corp; Culver Pictures. 3) Clockwise from lower left: Bettmann Archive; Walt Disney Productions; RKO Radio Pictures; 20th Century Fox Film Corp; Culver Pictures. 4) Clockwise from lower left: Bettmann Archive; Walt Disney Productions; RKO Radio Pictures; 20th Century Fox Film Corp; Culver Pictures. 5) Clockwise from lower left: Bettmann Archive; Walt Disney Productions;

RKO Radio Pictures; 20th Century Fox Film Corp; Culver Pictures. 81. 1) Clockwise from top left: Metro-Goldwyn-Mayer Inc; Metro-Goldwyn-Mayer Inc; Herman G. Weinberg Collection; United Artists; Metro-Goldwyn-Mayer Inc. 2) Clockwise from top left; Metro-Goldwyn-Mayer Inc; Metro-Goldwyn-Mayer Inc: Herman G. Weinberg Collection; United Artists; Metro-Goldwyn-Mayer Inc. 3) Clockwise from top left: Metro-Goldwyn-Mayer Inc; Metro-Goldwyn-Mayer Inc; Herman G. Weinberg Collection; United Metro-Goldwyn-Mayer Inc. 4) Artists: Clockwise from top left: Metro-Goldwyn-Mayer Inc; Metro-Goldwyn-Mayer Inc; Herman G. Weinberg Collection; United Artists; Metro-Goldwyn-Mayer Inc. 5) Clockwise from top left: Metro-Goldwyn-Mayer Inc; Metro-Goldwyn-Mayer Inc; Herman G. Weinberg Collection; United Artists; Metro-Goldwyn-Mayer Inc. 82. 1) Mikki Ansin, Gamma/Liaison. 83. 2) Gale M. Adler, Shooting Star. 3) Gale M. Adler, Shooting Star. 84. 1) Gale M. Adler, Shooting Star. 2) Gale M. Adler, Shooting Star. 85. 1) Gale M. Adler, Shooting Star. 2) Gale M. Adler, Shooting Star. 86. 1) Shooting Star. 87. 1) Mikki Ansin, Gamma/Liaison. 2) Eva Sereny, Sygma. 88. 1) Gale M. Adler, Shooting Star. 89. 1) M. Decet. 4) Lucasfilm Ltd. All rights reserved. 91. 1) Panavision. 93. 1) Eastman Kodak. 94. 1) Lucastilm Ltd. All rights reserved. 95. 1) Academy of Motion Picture Arts and Sciences. 98. 1) George Eastman House. 99. 1) Bettmann Archive. 2) Culver Pictures. 3) Bettmann Archive. 100. 1) Keystone Studio. Collection/SuperStock. 101. 1) Scene from Gold Diggers of 1933 (1933) directed by Mervyn Le Roy; the John Springer Collection, Bettmann Archive. 102. 1) Bettmann Archive. 2) Kobal Collection/SuperStock. 103. 1) Bettmann Archive, 2) Culver, 104, 1) Bettmann Archive. 2) Culver Pictures. 105. 1) Culver, 2) Bettmann Archive, 106, 1) Granger Schapiro, Steve Collection. 2) Gamma/Liaison, 107, 1) Copyright 1977 Twentieth Century-Fox Film Corporation; all rights reserved. 2) Sygma. 3) South Australian Film Corporation, 109, 1) Warner Bros. 112,2) Metropolitan Police. 3) FBI. 4) Cellmark. 113. 1) Embassy of Finland. 114. 1) Kay Honkanen from Carl Östman. 116. 1) Volker von Bonin. 117. 1) Embassy of Finland. 2) Bob and Ira Spring, FPG. 3) Keystone. 4) Bud Guyon, Keystone. 118. 1) Francis O. Spalding, Tom Stack & Assocs. 119. 1) Carl Jorgensen, Tom Stack & Assocs. 2) Matti Selanne, Tom Stack & Assocs. 121. 1) Herbert Fristedt from Carl Östman. 2) Herbert Fristedt from Carl Östman. 124. 1) Richard Isacoff, Finnish Spitz Club of America. 125. 1) Jones & Laughlin Steel Corp. 2) Chuck O'Rear, West Light. 126. 1) Science Museum. 131. 2) London Fire Brigade. 132. 1) London Fire Brigade. 2) Owens-Corning Fiberglas Corporation. 133. 1) Photographic Library of Australia. 134, 1) Brown Bros. 135. 1) London Fire and Civil Defence Authority, 3) Dept of Fire Technology, Southwest Research Institute, 138, 2) James E. Lloyd, University of Florida. 3) James E.

Lloyd, University of Florida. 139, 1) Mary Evans Picture Library, 140, 1) Mansell, 141, 1) Blair Seitz, Photo Researchers. 150. 1) W. Neumeister, Colbert Artists Management. 152. 2) Roy Pinney, Globe. 153. 1) Jen & Des Bartlett, Bruce Coleman. 2) Jen & Des Bartlett, Bruce Coleman. 4) Jen & Des Bartlett, Bruce Coleman, 156, 1) Bill Noel Kleeman, Tom Stack & Assocs. 159. 1) Allan Power. 160. 5) George H. Harrison from Grant Heilman. 161. 1) Jim Annan. 9) Jim Annan. 162. 1) Ben Cropp, Tom Stack & Assocs. 163. 1) David Doubilet, Animals Animals. 11) Allan Power, Bruce Coleman. 164. 1) Ron Church, Tom Stack & Assocs. 165. 8) Giuseppe Mazza. 166. 1) Ron Church, Tom Stack & Assocs. 172. 1) Treat Davidson, NAS. 2) Treat Davidson, NAS. 3) Treat Davidson, NAS. 173. 1) Runk/Schoenberger from Grant Heilman. 2) Stan Keiser from Ron Church. 174. 1) Boyd Wells, Pictorial Parade, 2) Allan Power, Bruce Coleman. 3) Giuseppe Mazza. 4) Allan Power, Bruce Coleman. 175. 1) Ron Church, Torn Stack & Assocs. 2) Ben Cropp, Tom Stack & Assocs. 3) Marineland of Florida. 177. 1) Robert Jureit, The Waterhouse. 2) Runk/Schoenberger from Grant Heilman. 3) William M. Stevens. 182. 1) Paul Popper. 2) Hulton Deutsch Collection. 3) Mander & Mitchenson Theatre Collection. 183. 2) M. Decet. 187. 1) J. R. Eterman, Black Star. 2) David Falconer. 190. 1) Michael Friedel. 191. 1) David Falconer. 2) C. C. Lockwood, Earth Scenes. 192. 1) Terry Domico, Earth Images. 193, 1) David Falconer, 194, 1) Ted Spiegel, Black Star. 196. 1) Pablo Records. 2) Bettmann Archive. 198. 1) Ewing Galloway. 214, 1) U.S. Navy. 215, 1) U.S. Navy. 218, 1) The Metropolitan Museum of Art, New York City, Crosby Brown Collection. 219. 1) FourByFive. 2) Eric Crichton/Bruce Coleman. 220. 1) Jane Burton, Bruce Coleman. 2) Jane Burton, Bruce Coleman. 221. 1) Richard Desgrand. 3) Granger Collection. 222, 2) Bettmann Archive. 223. 3) International Linen Promotion Council, 224. 1) Royal Academy of Arts. 2) National Portrait Gallery. 225. 2) Max Ehlert, Miller Services. 226. 1) Laurie Platt Winfrey Inc. 227, 2) National Library of Australia. 228. 1) ZEFA. 229. 1) Randy Taylor, Sygma. 230, 2) Joe Traver, Gamma/Liaison. 231, 1) ZEFA. 232, 1) Seymour Linden, De Wys Inc. 233. 1) World Film Enterprises, Black Star. 234. 1) Steven Lucas, Southern Stock. 238. 1) Dept of Cereal Science & Food Technology, North Dakota State University. 239. 1) David Muench. 240. 1) Robert W. Mitchell, Torn Stack & Associates. 2) Werner Stoy, Camera Hawali. 3) D. Ruble from Edward S. Ross. 4) M. Fogden, Bruce Coleman Inc. 5) Edward S. Ross. 6) James H. Carmichael, Jr. 7) Diana & Rick Sullivan, Bruce Coleman Ltd. 8) William H. Allen, Jr. 9) Dick Keen, Acadia Multi-Image. 241. 1) Vance Henry, Taurus Photo. 2) Werner Stoy, Camera Hawaii. 242. 1) A-Z Collection. 2) Sabine Weiss, Photo Researchers. 243. 1) Diana Hunt from Louis Mercier. 250. 1) Oxford Scientific Films. 251. 2) Steve McCutcheon. 252. 5) Derek Fell. 256. 1) Russell D. Lamb. 257. 2) Kitty Kohout. 258. 1) Tim Kilby Van Cleve Photography. 260. 2) David Meunch. 3) Ben McCall, FPG. 263. 2) Thomas Eisner. 264, 1) James P. Rowan, 2) Giuseppe Mazza. 265. 1) Metropolitan Museum of Art, New York City, George A. Hearn Fund, 1959. 266. 2) Milt and Joan Mann, Van Cleve Photography. 272. 1) A-Z Botanical Collection Ltd. 3) Redferns. 273. 1) London Scientific Films/Oxford Scientific Films. 2) E. R. Degginger. 275. 2) David J. Carr, M.D., Northwestern Memorial Hospital. 276. 1) John Fennell/Bruce Coleman. 277, 1) Grace A. Thompson, NAS. 2) Fran Hall, NAS, 3) Jane Burton, 279, 1) Avril Ramage, Oxford Scientific Films. 2) Avril Ramage, Oxford Scientific Films. 3) Avril Ramage, Oxford Scientific Films. 4) Avril Ramage, Oxford Scientific Films. 281. 1) Photographic Library of Australia. 2) Tom McHugh, Photo Researchers. 282. 1) John Mackinnon, Bruce Coleman. 2) J. Alsop, Bruce Coleman. 283. 1) Australian Island Mission, 3) David R. Frazier, 4) United Press Int. 285. 1) J. Kankel, Bavaria-Verlag. 288. 1) Minnesota Dept of Economic Development, 2) Heidelberg University Library. 289. 1) Charles W. Herbert, Western Ways. 2) Abby Aldrich Rockefeller Folk Art Collection (Colonial Williamsburg). 291. 1) P. Hollembeak and J. Beckett, American Museum of Natural History, 2) Indelible, Inc. 3) AP/Wide World. 292. 1) Lauros-Giraudon. 2) Mander & Mitchenson Theatre Collection. 3) Bob Gomel, Life Magazine 1963 Time Inc. 293. 2) Donald Smetzer. 3) Owen Franken, Stock, Boston. 4) Owen Franken, Stock, Boston. 294. 1) Leon V. Kofod. 2) Victor Englebert. 297. 1) Edward S. Ross. 2) Edward S. Ross. 298, 2) Jonathan T. Wright, Bruce Coleman. 299. 1) Jim Wood, Cuisine magazine. 300. 1) Charles Tait. 301. 1) The Pierpont Morgan Library, New York City. 303. 1) Ron Sherman, Bruce Coleman. 305. 1) Campbell Soup Co. 306. 1) Campbell Soup Co. 2) Campbell Soup Co. 309. 1) Cary S. Wolinsky, Stock, Boston. 2) Chester Peterson, Jr, Farm Journal, 314, 1) Marc & Evelyne Bernheim, Woodfin camp. 315, 1) Alain Nogues, Sygma. 316. 1) AP/Wide World, 318, 1) Mickey Pfleger 1982. 322, 1) Ken Kaminsky. 2) Focus on Sports. 323. 1) Carl Skalak, Jr, OPTICOM. 2) Michael Yada, National Football League Properties, 3) Focus on Sports. 4) Pete Miller, National Football League Properties, 324, 1) Focus on Sports. 2) Focus on Sports. 326, 1) Allsport/David Cannon. 328. 1) Action Plus/Mike Hewitt. 331, 1) Action Plus/Chris Barry. 2) Alisport/Simon Brutty. 3) Colorsport. 332. 1) Colorsport. 333. 1) Allsport/Billy Stickland. 334. 1) Allsport/Billy Stickland. 2) Allsport/Simon Brutty. 335. 1) Norman Barrett. 336. 1) University of Illinois Hospital. 339. 1) Hulton Deutsch Collection. 2) Rex Features. 3) Ford Motor Company. 340. 1) Ford Motor Co. 341, 1) Kobal Collection. 344, 1) Jacques Jangoux. 2) Jen & Des Bartiett, Bruce Coleman. 3) Ray Atkeson, DPI. 345. 1) Smith/Polunin Collection. 2) Jerry Frank, DPI. 3) Robert Frerck, Dimensions. 346. 1) Jacques Jangoux. 2) Eric Crichton/Bruce Coleman. 3) Hutchison Library. 355. 1) Bill Staley, West Stock. 356. 1) Forestry Commission, 358, 1) Desmond Dugan/Frank Lane Agency. 2) John Running, Stock, Boston. 359, 1) Terry Wild. 2) Liane Enkelis, Stock Boston. 361, 1) Wardene Weisser, Berg & Assocs. 2) Stacy Pick, Stock, Boston. 363. 1) Serena Wadham/Camera Press. 364. 1) W. Atlee Burpee Co. 2) Chicago Park District. 3) Robert Harding Picture Library. 365. 1) Karl Kummels, Shostal. 367. 2) Veit/Watkins from Sipa. 368. 1) Catherine Ursillo, Photo Researchers. 369. 1) Donald Baird. 370. 1) Tom Algire, FPG. 3) E. R. Degginger, Animals Animals. 4) Barry L. Runk. 371, 1) American Museum of Natural History. 3) Runk/Schoenberger from Grant Heilman. 372. 1) William E. Ferguson. 2) American Museum of Natural History. 373. 1) William E. Ferguson. 2) Albert Dickson. 374. 1) University of Pittsburgh. 375. 1) Adam Woolfit, Woodfin Camp. 376. 1) Gift of Junius S. Morgan, 1919. 378. 1) G. Ronald Austing, Bruce Coleman. 2) Kojo Tanaka, Animals Animals. 3) Jane Burton, Bruce Coleman. 379. 1) J. Simon, Bruce Coleman. 380. 1) E.R. Degginger. 2) Jen & Des Bartlett/Bruce Coleman. 3) Lithograph by Leopold Grozelier; Chicago Historical Society, 381, 2) Andrew W. Mellon Collection. 382. 2) John Hubbard, Cornell Theory Center. 391. 1) Mark Antman, The Image Works. 393. 1) Tony Stone Photolibrary, London. 2) Spectrum Colour Library. 3) Hutchison Library. 4) Image Bank. 394. 1) Daniel Simon, Gamma/Liaison. 2) Figaro magazine from Gamma/Liaison. 3) John Dominis, Wheeler Pictures, 399, 1) Guy Marche, FPG. 2) Howard Friedman, Photo researchers. 400. 1) AP/Wide World. 2) Bernard Hermann, Gamma Liaison. 401, 1) Claudia Parks, The Stock Market. 2) Peter Vadnal, Art Resource. 402. 1) Tetrel/Explorer Photo Researchers. 403. Giraudon/Art Resource. 3) Art Resource. 4) Triarchou, Gamma/Liaison. 404. 1) Victor Englebert, Photo Researchers. 406. 1) Luis Villota, The Stock Market. 2) Michele Burges, The Stock Market. 3) D. Phillipe, FPG. 408. 2) Louis Goldman, Photo Researchers. 409. 1) Chip Hires, Gamma Liaison. 410. 1) Bruce Thomas, The Stock Market. 2) S. Kanno, FPC. 412. 1) Art Resource. 414. 1) Giraudon/Art Resource. 416. 1) AP/Wide World, 418, 1) AP/Wide World, 421, 1) The Frick Collection, New York City. 423. 1) Black Star. 424. 1) Wide World. 2) Cora Kelley Ward, 3) Kobal Collection, 425, 1) ZEFA, 2) Mary Evans Picture Library. 427. 1) Australian Information Service. 439. 1) Photographic Library of Australia. 442. 1) Victor Englebert. 2) Sebastiao Salgado, Magnum. 453. 1) SCALA/Art Resource. 456. 1) SCALA/Art Resource, 457, 1) Dr W. Hoffer, 459, 1) Jack Lenahan, Chicago Sun-Times. 461. 1) Photographic Library of Australia. 462, 1) Tate Gallery. 2) Image Bank. 463. 1) John Shaw/Bruce Coleman. 464. 1) Alvin E. Staffan. 2) E. R. Degginger. 3) Harold Hungerford, 466. 1) Anthony Bannister, NHPA, 2) Grant Heilman, 3) Treat Davidson, NAS. 4) Stephen Dalton, NHPA. 467. 1) Jane Burton, Bruce Coleman. 2) Jahoda, FPG. 3) E. S. Ross. 4) Giuseppe Mazza. 469. 1)

Popperfoto. 2) Public Archives of Canada. 470. 1) George Whiteley, Photo Researchers, Inc. 2) Hulton Deutsch Collection, 3) Bill Borsheim, Tom Stack & Associates, 471, 1) Wide World, 474, 1) U.S. Dept of Agriculture. 477. 1) Hulton Deutsch Collection. 480. 1) Peter Marlow, Magnum. 482. 1) Dennis Stock, Magnum, 484. 1) W. E. Ruth/Bruce Coleman. 486. 2) Runk/Schoenberger from Grant Heilman. 4) Grant Heilman. 487. 1) Australian Picture Library, 490, 1) David R. Frazier, 2) David R. Frazier, 3) David R. Frazier, 491, 1) David R. Frazier. 2) David R. Frazier. 3) David R. Frazier. 4) David R. Frazier. 5) David R. Frazier. 6) David R. Frazier. 494. 1) Lee Boltin, 2) Raymond V. Schoder, S.J. 4) Handford Photography. 495. 1) Alice Boney Collection, New York City. 2) R. Hatfield Ellsworth Collection, New York City (Lee Boltin). 3) Mary and Jackson Burke Collection, New York City (Lee Boltin). 496. 2) P. Hinous, Agence TOP. 497, 1) The National Trust. 2) Gift by Mrs Ralph Clarkson. 498. 1) SCALA. 2) R. Guillemot, Agence TOP. 500. 1) Stavros S. Niarchos Collection (Josse), 2) Lauros, Giraudon. 502. 1) The National Trust. London. 504. 1) Fratelli Fabbri Editori, Milan, Italy. 505. 1) Gilbert Mangin. 2) Mrs George M, Marshall. 507. 1) Atelier International. 2) Knoll International. 3) Herman Miller Inc. 4) Knoll International, 5) Knoll International, 6) ICF Inc. 7) Knoll International. 8) Knoll International. 508. 1) Baker Furniture. 509. 1) Exchem.

G

3. 1) Shostal. 4. 1) C. C. Lockwood, Animals Animais. 2) Cumann Luthcheas Gael. 7. 1) Sovieto. 9. 1) Tem McHugh, Photo Researchers. 10.1) Mel Zaloudek from Marilyn Gartman. 2) NASA. 13. 1) SCALA/Art Resource. 14. 1) Art Resource. 17. 2) Mary Evans Picture Library, 18, 1) Simpson Electric Co. 19, 1) Heather Angel, 2) Fignibar Calianan. 20.1) Fionnbar Callanan. 21. 1) Clive Barda. 22. 1) Chuck Fishman, De Wys Inc. 24. 3) Granger Collection. 25. 2) Robert Harding Picture Library. 27. 1) Embassy of India, Washington, D.C. 28. 1) Popperfoto. 29. 1) Baldev, Sygma. 31. 1) Mischa Scorer, Hutchison Library. 2) Gordon Langsbury, Bruce Coleman Ltd. 32. 2) MGM. 3) Camera Press. 33. 1) Rex Features. 34. 1) Pennsylvania Horticultural Society. 2) Paul Meyer. 37. 1) Garden Picture Library/Brigitte Thomas. 2) Garden Picture Library/Kate Zari. 3) Garden Picture Library/Jerry Pavie. 5) Garden Picture Library/John Baker. 43.1) AP/Wide World. 44. 1) Haesler Art Publishers/Art Resource. 45. 1) MGM from the Kobal Collection. 46. 1) Her Majesty's Stationery Office. 47. 1) C. M. Dixon, 2) Wide World. 48. 1) Trans-Canada Pipe Lines. 49. 1) Northern Illinois Gas Co. 2) S. Roberts, Image Finders. 52. 1) Geo Data Corporation. 2) Ted Czocowski, Image Finders. 4) Northern Illinois Gas Co. 53. 2) David R. Frazier, 3) Carneramann Int. from Marilyn Gartman. 56. 2) British Gas. 60. 1) David R. Frazier. 62. 3) Historical Pictures Service. 64. 2) Harris

Brisbane Dick Fund, 1939. 65. 1) E. R. Degginger. 66. 1) Hutchison Library. 67. 1) Gerald Cubitt. 71. 1) British Crown Copyright courtesy of H.M. Stationery Office. 73. 3) Chicago Historical Society. 74. 1) Royal Astronomical Society Library. 79. 1) Paul Popper. 87. 1) Martin Rogers, Stock, Boston. 2) Paul Robert Perry. 3) Runk/Schonenberger from Grant Heilman. 88. 1) GECO UK, Science Photo Library. 90. 1) Odyssey Productions. 91. 1) Kevin Schafer, Tom Stack & Assocs. 2) Dave Millert, Torn Stack & Assocs. 3) David Koshman, Earth Image. 93. 1) Dewitt Jones. 100. 3) Brown Brothers. 4) Karsh, Ottawa. 101. 1) Brown Brothers. 2) Karsh, Ottawa. 102. 1) Fred Salaff, FPG. 103. 1) Nelson Merrifield, Shostal. 3) John Scowen, FPG. 112. 1) B. Bisson, Sygma. 113. 1) Picture Finders from Bavaria-Verlag. 2) David Pollack, The Stock Market. 115. 1) Spectrum Colour Library, 2 Robert Harding Picture Library. 3) Robert Harding Picture Library. 119. 2) The Telegraph from Bavaria-Verlag. 120. 1) Lois Wille. 2) Picture Finders from Bavaria-Verlag. 3) Messerschmidt, Bavaria-Verlag. 121. 1) Muhlberger, Bavaria-Verlag. 2) Owen Franken. Information Centre. 122. 1) Color-photo Hans Hinz. 2) Francis G. Mayer Art Color Slides Inc. 3) Film Stills Archive, The Museum of Modern Art. 4) Wilhelm Rauh, Bayreuther Festspiele. 5) Giraudon/Art Resource. 123. 1) Gift of the T. B. Walker Foundation, Gilbert M. Walker Fund, 1942. 2) F. Karsten, London from Bauhaus-Archive, Berlin. 124. 1) K. W. Kruber, Bavaria-Verlag. 126. 1) Marvullo, The Stock Market. 2) M. u. H., Bavaria-Verlag. 3) L. H. Mantell, The Stock Market, 128, 1) Cameramann Int. 2) BMW of North America Inc. 130, 1) Muller-Gull, Bavaria-Verlag, 131, 1) Archiv fur Kunst und Geschichte. 132. 1) German Information Centre. 135. 1) Bettmann Archive. 136. 1) Bettmann Archive. 2) Bettmann Archive. 137. 1) UPI/Bettmann 139. 1) Newsphotos. DPA Photoreporters. 141. 1) National Archives. Washington, DC. 142.1) Wide World. 143. 2) ABC Television. 144. 1) US Dept. of the Interior. 2) Granger Collection. 147. 1) John Elk III, Wheeler Pictures, 148, 1) John Elk III, Wheeler Pictures. 150. 1) SCALA/Art Resource. 2) SCALA/Art Resource. 151, 1) Lee Boltin. 2) Khurram Amroha. 152. 2) Manley Photo from Shostal. 153. 1) Giuseppe Mazza. 2) Hulton Deutsch Collection. 154, 1) David Warren, Shostal. 155. 2) Culver. 156. 1) Keith Butler, Gamma-Liaison. 157. 1) Tom Brakefield, Bruce Coleman. 158. 1) Martha Swope. 159. 2) BBC. 160. 1) Mansell. 161. 1) Sydney Morning Herald. 162. 1) John Lythgoe/Planet Earth Pictures. 2) Michael Viard/Bruce Coleman. 2) Michel Viard/Bruce Coleman. 3) Atoz. 163. 2) The Mitchell Library. 164. 1) Australian Museum. 2) A. Myers, De Wys, Inc. 167. 1) Girl Guides Association. 2) Girl Guides Association. 168, 1) Girl Guides Association. 2) Girl Guides Association. 169. 1) Girl Guides Association. 170. 1) Girl Guides Association, 171, 1) Girl Guides Association. 172. 1) Tate Gallery, London. 173. 1) American Film Institute, 174, 1) Bob and Ira

Spring. 2) John R. T. Molholm. 176. 1) Garden. Picture Library/David Russell. 177. 1) Chicago Historical Society. 179. 1) Aerofilms. 180. 1) Wales Tourist Board. 185. 1) City of Glasgow District Council. 186. 1) Spectrum Colour Library. 188. 1) Glasgow District Council. 2) Glasgow District Council. 189. 1) Milt and Joan Mann. 4) Marge Kathan, 5) Milt and Joan Mann. 7) NASA. 9) The Spirit of Glass by Dominick Labino. 193. 1) Owens-Illinois. 2) Corning Glass Works. 194. 1) Libbey-Owens-Ford Co. 2) Steuben Glass (Henry Groskinsky). 3) Steuben Glass (Henry Groskinsky). 4) Corning Glass Works, 5) Steuben Glass (Henry Groskinsky). 195. 1) Milt and Joan Mann, 2) Milt and Joan Mann, 197. 1) Gift of Theodore W. Robinson, 198, 3) Gift of Julius and Augusta N. Rosenwald, 199. 2) Steuben Glass. 200. 1) Fionnbar Callanan. 201.1) Corning Glass Works. 202. 1) Z. Leszczynski, Animals Animals. 2) Billy E. Barnes, Miller Services. 205. 1) Office of Senator John H. Glenn, Jr. 2) Schweizer Aircraft Corporation. 208. 1) E. R. Degginger. 2) U.S. National Air and Space Museum, Smithsonian Institution. 209.1) Brown Bros. 2) Focus on Sports. 210. 2) The Christian Science Publishing Society. 212, 1) Simply Creative. 214. 1) Art Institute of Chicago, George F. Harding Collection. 3) The Bridgeman Art Library from Art Resource. 5) Carolina Glove Co. 217. 2) Breck P. Kent. Earth Scenes. 218, 1) Gluseppe Mazza. 219. Spectrum Colour Library. 220, 2) Spectrum Colour Library. 221. 1) Photographic Library of Australia. 222, 1) V. Renaud, Jacana. 2) Photo Duscher from Bruce Coleman. 223. 1) Agri-Graphics. 2) Daniel Considine, Sunshine Farms. 3) Grant Heilman. 4) Grant Heilman. 224. 1) Brian Vikander, West Light. 227. 1) United Press Int. 228. 1) Goethe by J. H. Lips. Goethe Nationalmuseum, Weimar, Germany (New York Public Library). 230, 2) Federal Reserve Bank of New York. 232, 1) Robert Harding Picture Library. 3) Robert Harding Picture Library. 2) ZEFA. 235. 2) Homestake Mining Company. 3) National Museum of Ireland. 236. 1) California State Library. 2) Dixson Library. 3) Mitchell Library. 237. 1 Mitchell Library. 2) Dixson Library. 238. 1 National Library of Australia. 2) Historical Pictures Service. 239. 1) Wide World. 242. 1) Treat Davidson, NAS. 2) Jane Burton, Bruce Coleman. 3) John H. Tashjian. 243. 1) Library of Congress. 244. 2) Golf Digest. 250. 1) AP/Wide World. 3) AP/Wide World. 5) AP/Wide World. 252. 1) Fritz Prenzel, Bruce Coleman. 2) National Library of Ireland. 3) Pamella McReynolds. 253. 1) Breese, Gamma/Liaison. 256. 1) Tom McHugh, Photo Researchers. 2) Pascal Kyrlazis, Sygma. 259. 1) San Diego Zoo. 2) Dian Fossey, Bruce Coleman Inc. 261. 1) A. Conger Goodyear Fund, New York City. 2) The Australian. 262. 1) Art Resource. 263. 1) Robert Harding Picture Library. 2) Metropolitan Museum of Art, New York City. 264. 1) The Pierpont Morgan Library, New York City. 267. 1) U.S. Army. 2) Judith Selsor, Wheeler Pictures. 3) Steve Smith, Wheeler Pictures. 4) Frank Siteman from Marilyn Gartman. 280, 1)

Mansell. 281. 1) SCALA/Art Resource. 283. 4) Runk/Schoenberger from Grant Heilman. 284. 1) Russ Busby. 2) Bill King, The Washington Post. 3) Martha Swope. 285. 1) Hulton Deutsch Collection. 2) Desmond O'Neill. 286. 1) Bill Brooks, Masterfile. 290. 1) Scottish Tourist Board. 291. 1) Scottish Malt Distillers. 2) Parward, Hutchison Library. 293. 1) Josef Muench. 295, 1) Allsport/Bob Martin. 296, 1) Universal Pictures. 2) Library of Congress. 297. 1) Taylor Wine Company. 3) Thomas Nebbia, DPI, 299, 2) Florida Department of Citrus. 305. 1) Alexander B. Klots. 2) Shaw, APF. 3) John H, Gerard. 306. 2) Jim Brandenburg. 307. 1) Gift of Mr. and Mrs. Howard G. Kornblith. 311, 2) lan Berry, Magnum, 312, 1) Chuck Nicklin, 316, 1) Wide World. 317. 1) Brown Bros. 318. 1) Mary Evans Picture Library. 319. 1) Australian Consolidated Press. 321. 1) Mansell. 325. 1) George Hunter, Miller Comstock, 2) Artstreet. 326, 1) Hulton Deutsch Collection, 327,1) Peter Beney, FPG. 328. 1) Mary Evans Picture Library. 2) Walter Knirr. 329. 1) Leslie Woodhead, Hutchison Library, 330, 2) Gordon Langsbury/Bruce Coleman, 331, 1) Bequest of Mrs. H. O. Havemeyer, 1929. 2) Joseph Pulitzer Bequest Fund, 1924. 332. 1) J. Pavlovsky, Sygma. 335. 1) Margot Granitsas, Photo Researchers. 336. 1) Starfoto from ZEFA. 2) Joe Viesti. 338.1) Prato, Bruce Coleman Ltd. 2) H. Luetticke, ZEFA. 341. 1) Eberhard E. Otto, F.P.G. 344. 1) Bettmann. 351. 1) Ronald Sheridan. 353. 1) Ronald Sheridan, 2) Ronald Sheridan, 359, 1) Culver. 360. 1) J. A. Nearing Co. Inc. 362. 1) Shostal. 2) Danish Tourist Board. 363. 1) Tom Nebbia, DPI. 364, 1) The Mitchell Library. 2) Richard Desgrand, 373, 1) Sporting Pictures, 375, 1) Gaumont-British. 2) Australian News. 3) Hulton Deutsch Collection. 376. 1) The Mitchell Library. 2) Granger Collection. 3) Mansell. 377. 1) Mansell Collection. 2) Mansell Collection, 378, 1) Aerofilms, 379, 1) John Lei, Stock, Boston. 2) Jim Pickerell. 380. 1) Gary Milburn, Tom Stack & Assoc. 2) Rick McIntyre, Tom Stack & Assoc. 381. 1) Nick Wheeler. 383. 1) Gift of A. Conger Goodyear. 384. 1) Gerald Cubitt/Bruce Coleman. 2) Painting by Charles R. Knight; Field Museum of Natural History. 3) Karl Maslowski, Photo Researchers, Inc. 385. 1) Ernest E. Poole Estate, 386, 1) Gift of Dr Lorne Pierce, 1958, in memory of Edith Chown Pierce, 392, 1) Shostal. 393. 1) Kurt Scholz, Shostal. 2) Joe Barnell, Shostal. 394. 1) Rex Features. 396. 1) Shostal. 397. 1) Norman Owen Tomalin/Bruce Coleman. 398. 1) Emil Muench, Östman. 400. 1) Jane Latta, Keystone. 403. 1) E. R. Degginger. 2) Randall L. Susman, State University of New York at Stony Brook. 404. 1) P. Manoukian, Sygma. 405, 1) United Press Int. 406, 1) U.S. Navy. 2) U.S. Army, 3) U.S. Air Force, 408, 1) General Dynamics, 3) U.S. Navy, 409, 1) Associated Press, Topham. 411. 1) NAS Marshall Space Flight Center. 414. 1) J. C. Francolon, Gamma/Liaison. 415. 1) M. P. Revelen, Gamma/Liaison. 2) M. P. Revelen, Gamma/Liaison. 417. 1) G. Ricatto, Shostal. 2) A. Dejean, Sygma. 418. 2) Grant Heilman.

419. 1) 1957 Columbia Pictures Corp. 2) Craig Kersten. 3) Pamela McReynolds. 420. 2) Robert Harding Picture Library. 421. 1) Robert Harding Picture Library. 422. 1) Robert Harding Picture Library. 423, 1) Robert Harding Picture Library. 426. 1) NOAA/SDSD. 427, 1) Granger Collection. 428, 2) Richard Desgrand. 429. 1) The Mitchell Library. 2) Camera Press. 3) Ander Gunn. 431. 1) Dr. Suresh Vasant, ACSA University of Michigan, Ann Arbor, 432, 1) United Press Int. 2) Studio Popp. 433. 1) Robin Carson, courtesy Mariorie Mazia Guthrie. 2) Guy's Hospital. 434. 1) David deVries, Bruce Coleman. 436. 1) Wales Tourist Board. 438. 1) Aerofilms. 440, 1) Focus on Sports. 2) Focus on Sports. 3) Focus on Sports. 441. 1) Thomas Zimmermann, FPG. 2) Lewis Portnoy, The Stock Market, 3) Alvis Upitis, Shostal. 443. 1) Filip Horvat, Picture Group.

H ---

7. 1) Ken Lucas/Planet Earth Pictures. 8. 1) D. Bartruff, FPG. 9. 1) National Severe Storms Laboratory (NOAA). 2) United Press Int. 10. 1) Tim Page Photography, 11. 1) Tony Brain, Science Photo Library, 13. 2) Raymond V. Schoder, S.J. 4) Lauros-Giraudon. 5) Versailles, France. 14. 1) From *The Best of* Charles Dana Gibson 1969, by Crown Publishers, Inc. 2) Artstreet, 3) Hutchison Library. 4) ZEFA. 15. 1) Arnold H. Crane from Marilyn Gartman. 17. 1) Gerald S. Adams, Shostal. 18. 1) Carl Frank, Photo Researchers. 20. 1) Keystone. 2) Chicago Historical Society. 21. 1) Warner Bros Television Distribution Inc. 22. 1) Brown Bros. 24. 1) Larry Day. 25. 1) Educational Graphics. 26. 1) Bequest of Benjamin Altman. 27. 1) Dan Porges, Bruce Coleman. 28. 1) Photographic Library of Australia. 29. 1) Norman Tomalin/Bruce Coleman. 2) Michael Handforth. 3) Michael Handforth. 30. 1) Hamilton Island Enterprises. 31. 1) Larry Day. 32. 1) Culver Pictures. 33. 1) Raymond V. Schoder, S.J. 34. 1) Esso. 35. 1) J. Allan Cash Photolibrary. 36. 1) Press Association. 39. 1) Mansell Collection, London. 40. 1) Sporting Pictures. 2) Peter Gonzales. 3) E. R. Degginger. 45. 1) Larry Day. 3) Larry Day. 2) Peter Gonzalez. 4) L. Perkins. 46. 1) Hospitals of Chicago University (Cameramann international, Ltd.). 47. 1) Dan McCoy, Rainbow. 2) Bernard Pierre Wolff, Photo Researchers. 3) Larry Day. 48, 1) Robert Harding Picture Library. 3) Robert Harding Picture Library. 4) Robert Harding Picture Library. 5) ZEFA. 49. 1) Bob Hahn, Taurus. 2) Frank Siteman, Taurus. 3) Mary Heitner, Taurus. 4) BBC. 50. 1) Jim Cronk. 54. 1) Courtesy of W. C. Handy, Jr. 55. 1) SCALA/Art Resource. 56. 1) Hubertus Kanus, Shostal. 57. 1) Cameramann Int. 58. 1) Cameramann International, Ltd. 2) Mansell. 3) David R. Frazier. 59.1) Hans Reinhard/Bruce Coleman. 60. 1) Australian Information Service. 2) The Mitchell Library. 61. 1) Bettmann Archive. 62. 1) Caryle Calvin. 2) Pamelia McReynolds. 64. 2) Pamelia McReynolds. 65. 1) Steve McCutcheon. 2) Pamela McReynolds. 66. 2) Roger Fuhr, ROLANDesign, 67. 1) Walter Chandoha. 2) Hulton Deutsch Collection. 68. 1) Rex Features. 70. 1) Philippa Scott, Photo Researchers. 71.1) National Library of Australia. 73, 1) Hutchison Library. 76, 1) Robert W. Young, DPI. 2) Paul Robert Perry. 3) H. Taylor, De Wys, Inc. 4) George Nelson, Artstreet. 5) Woodfin Camp Inc. 6) Spectrum Colour Library. 7) Howard Sochurek, Woodfin Camp Inc. 8) Robert Coultras, Barnaby's Picture Library. 9) Wemer Stoy, DPI. 78. 1) Daily Telegraph. 79, 1) Edward S. Ross. 2) John Dominis, Wheeler Pictures. 82. 1) James P. Rowan, 83, 1) Hans Reinhard/Bruce Coleman, 85, 1) Dennis Green/Bruce Coleman. 2) Australian Picture Library. 87. 1) Mansell. 88. 1) A-Z Collection from Photo Researchers. 89, 1) David R. Frazier. 90, 1) John Fairfax & Sons Ltd. 91, 1) Spectrum Colour Library, 94, 1) David R. Frazier, 95, 1) R. Laird, FPG. 96. 1) David R. Frazler. 98. 1) Phonic Ear Inc. 2) Robert Rathe, Hearing Industries Assoc. 3) Kenneth W. Berger, School of Speech Pathology and Audiology. Kent State University. 4) Audiological Engineering Corp. 99. 1) Howard Sochurek, The Stock Market. 101. 2) Ronald Sheridan. 102. 1) From the film Red River of Life, Moody Bible Institute of Science. 105. 1) A. B. Shaffer, M.D. 106. 2) Martin M. Rotker, Phototake. 107. 1) Lennart Nilsson. 108. 1) Thomas S. England, Photo Researchers. 110. 1) Ken Hoge, Phototake. 111. 1) Royal Library, Her Majesty Queen Elizabeth II. 2) Granger Collection. 112, 1) Andrew McClenagan/Science Photo Library. 115. 1) Fritz Henle, Photo Researchers. 123, 1) John Markham/Bruce Coleman. 124. 1) Wide World. 125. 1) Dennis Green/Bruce Coleman. 133. 1) Giuseppe Mazza. 134. 1) Spectrum Colour Library. 137. 1) Hughes Helicopters Inc. 2) Aerospatiale Helicopter Corp. 3) Doug Wilson, Black Star. 4) Bell Helicopter Textron. 138, 1) Fred Ward, Black Star. 2) U.S. Coast Guard. 3) Sikorsky Aircraft. 140. 4) Bell Helicopter Textron. 142. 1) Sikorsky Aircraft. 3) Sikorsky Aircraft. 2) James Pickerell, Black Star. 144, 1) Larry Day. 2) U.S. Navy. 146, 1) Fletcher Fund, 1935. 3) Don Eaton, Higgins Armory Museum. 4) Bequest of George C. Stone, 1936. 5) Rogers Fund, 1904. 6) Michael T. J. Kulik, 7) AP/Wide World, 8) Mine Safety Appliances Co. 9) NASA. 147. 1) ZEFA. 2) J. Messerschmidt, Bruce Coleman Inc. 149. 1) Kitty Kohout, Root Resources. 150. 1) E. R. Degginger. 2) Joel Axelrad, Retna. 151. 1) Bettmann Archive. 155. 1) Patrick Henry Memorial Foundation. 157, 1) United Press Int. 162, 1) Keystone, 163, 1) SCALA/Art Resource. 164. 1) E. R. Degginger. 170. 1) Grant Hellman. 171. 1) Ryland Loos from Francis H. C. Crick, the Salk Institute. 178. 1) Royal Worcester Spode. 179. 1) Ancient Art and Architecture Collection. 181.1) Gordon Langsbury/Bruce Coleman. 2) Udo Hirsch/Bruce Coleman. 183. 1) E. R. Degginger. 185. 1) By courtesy of the Marquis of Salisbury. 189. 1) Wide World. 191. 1) Kansas State Historical Society. 194. 1) Brian Brake, Photo Researchers. 3)

Oriental Institute, University of Chicago, 4) Oriental Institute, University of Chicago. 195. 1) Ronald Sheridan. 2) Peabody Museum, Harvard University. 198. 1) Tom Pantages. 200. 1) Scottish Tourist Board. 202. 1) E. R. Degginger. 203. 1) Lotte Meitner-Graf. 2) Mansell. 204. 1) Aerofilms. 2) Wide World. 206, 1) Robert Harding Picture Library, 207, 1) G. Leroy, Pitch. 208. 1) Culver. 209. 1) Edward S. Ross. 2) Alok Kavan, Photo Researchers. 210. 1) Michael Holford. 211. 1) Spectrum Colour Library. 2) C.M. Dixon. 3) C. M. Dixon. 4) The Hutchison Library. 212, 1) Spectrum Colour Library. 213.1) Robert Harding Picture Library. 2) Spectrum Colour Library. 214. 1) Piers Cavendish/Impact. 2) Douglas Dickins F.R.P.S. 219. 1) Mark Boulton, National Audubon Society. 220. 3) Tom Myers. 4) James Annan. 221. 1) Keystone. 2) Gift of J. H. Wade. 222, 1) Chuck Fishman, Woodfin Camp, Inc. 223. 1) Wide World. 224. 1) Virginia Division of Tourism. 225. 1) Gift of George F. Baker, 1891. 2) Bettmann Archive. 226. 1) Ronald Grant Archive. 227. 1) Pictorial Parade. 228. 1) Folco, Sygma. 230, 1) Pictorial Parade. 2) European Picture Service. 231. 1) Pictorial Parade. 232. 1) Odyssey Productions. 233. 1) Tetlow, Pictorial Parade. 235. 1) Richard Parkinson. 2) Brown Bros. 236, 1) David R. Frazier. 2) M. Decet. 237, 1) David R. Frazier. 2) David Madison, Bruce Coleman, 239, 1) Allsport/David Cannon. 2) Art Resource. 240. 1) The Howard Frank Archives. 241.1) Courtesy of Denis Dobson. 242. 2) Roger Wilmshurst/Bruce Coleman. 245. 1) Wide World. 246. 1) Fred Whitehead, Earth Scenes. 2) Howard Frank. 247. 2) Brown Bros. 248. 1) Bettmann Archive. 249. 1) Yad Vashem Archives. 250. 1) Ronald R. Erickson. 2) Australian News. 252. 2) Spectrum Colour Library, 253. 1) Hulton-Deutsch Collection. 2) The Hutchison Library. 254. 1) Ronald Sheridan. 256, 1) Hans Reinhard, Bruce Coleman, 259, 1) Carl Frank, Photo Researchers. 2) United Brands Co. 260. 1) Hutchison Library. 263. 1) George Holton, Photo Researchers. 264. 1) A. J. Deane, Bruce Coleman Ltd. 265. 1) Guy Robbrecht/Bruce Coleman. 2) D. Lecourt, Jacana. 3) Leonard Lee Rue III, Earth Scenes. 267. 1) Milt and Joan Mann. 268. 1) Spectrum Colour Library. 269. 1) Milt and Joan Mann. 270. 1) Spectrum Colour Library. 271. 1) J. Allan Cash Photolibrary. 281. 2) Gordon Langsbury/Bruce Coleman. 3) Hans Reinhard/Bruce Coleman. 282. 1) Granger Collection. 2) Yvonne Gunner, Sygma. 3) John Gerlach, Tom Stack & Assocs. 283. 2) J. Shaw, Bruce Coleman. 284. 1) Robert and Linda Mitchell. 285. 1) Walter Chandoha. 287. 1) Fritz Prenzel, Bruce Coleman Inc. 2) American Morgan Horse Assoc., Inc. 3) Becky Hance. 4) Tom Clark, Shostal. 288. 1) Alix Coleman. 2) Cooke, Jerry Photo Researchers. 3) fra Haas, Researchers. 4) Robert Shiflet, Palomino Horse Breeders of America. 289. 2) Appaioosa Horse Club. 3) Sally Anne Thompson, Animal Photography. 290. 2) Walter Chandoha. 291. 2) Chicago Zoological

Society, 299, 1) John Messineo, Tom Stack & Assoc. 2) Robert Frerck, 300, 1) Karl Leck. 2) Alix Coleman. 301. 1) Alix Coleman. 2) Augustus Lipitis, FPG. 302. 1) William Strode, Woodfin Camp, Inc. 303. 1) Prehistoric cave painting (about 15,000 B.C.) by an unknown artist; Lascaux Cave, Dordogne, France (Jean Vertut). 304. 1) Gift of John D. Rockefeller, Jr., 1933. 2) Fletcher Fund, 1919. 305.1) Bettmann Archive. 306. 1) Jerry Wachter, Focus on Sports Inc. 309. 1) Irvin L. Oakes, Photo Researchers. 2) Leonard Lee Rue III, Earth Scenes, 3) L. L. T. Rhodes, Earth Scenes. 314. 1) Eric Kroll, Taurus. 2) Martin M. Rotker, Taurus, 3) Martin M. Rotker, Taurus. 315, 1) David R. Frazier, 3) David R. Frazier. 2) Joan Manschenfreund, Taurus. 319. 1) Mike Yamashita, Woodfin Camp, Inc. 2) Marriott Corporation. 3) John Bryson/Image Bank. 320. 1) Brown Bros. 321. 1) David R. Frazier. 322. 1) Eric Carle, Shostal. 2) George Goodman, Shostal. 3) David Forbert, Shostal. 4) L&M Photo from FPG. 323. 1) Viewfinder. 2) Viewfinder. 324. 1) J. S. Library. 2) Viewfinder. 326. 1) Harry Seidler. 2) National Trust. 328. 1) Spectrum Colour Library. 3) Brent Jones. 329, 1) Michael Freeman/Bruce Coleman. 2) E. R. Degginger. 330. 1) Richard Desgrand, 2) Inigo Everson/Bruce Coleman. 331. 1) ZEFA. 332. 1) Bell Aerospace Textron. 333. 1) Brown Bros. 334. 1) Science Museum. 335. 1) Geoffrey Hoyle. 336. 1) Wide World. 337. 1) Lockheed Missiles & Space Company Inc. 3) Kirklees Metropolitan Council. 338, 1) New York City Art Commission. 2) Granger Collection. 339. 1) R. Vroom, Miller Services. 340. 1) W. D. Murphy, Shostal. 2) Gift of Samuel P. Avery, 1895. 341. 1) Hudson's Bay Co. 342. 1) Wide World, 343. 1) Chicago Historical Society. 349. 1) Tony Duffy, Focus on Sports. 350. 1) Lennart Nilsson from Behold Man, 1974 Little, Brown & Co. 2) Lennart Nilsson from Behold Man, 1974 Little, Brown & Co. 6) Lennart Nilsson from Behold Man, 1974 Little, Brown & Co. 355. 1) Lennart Nilsson from Behold Man, 1974 Little, Brown & Co. 358. 1) Lennart Nilsson from Behold Man, 1974 Little, Brown & Co. 365. 1) Humberside County Council. 366. 2) Colin Davey, Camera Press. 367. 1) Painting by Bob Booth reproduced by courtesy of John Sands Promotional Products. 2) Australian News. 370. 3) Illustrations adapted from Hummingbirds by Crawford H. Greenewalt, 1960, The American Museum of Natural History. Reprinted by permission of Doubleday & Co. Inc. 5) Bob Smith. 373. 1) C. M. Dixon from Carl Ostman. 2) E. Henriksson from Carl Östman. 374. 1) Alexander M. Chabe. 376. 1) E. Henriksson from Carl Ostman. 2) C. M. Dixon from Carl Östman. 377. 1) E. Henriksson from Carl Östman. 379, 1) Oldrich Karasek from Peter Arnold. 380, 2) Paul Quirico, Torn Stack & Assoc. 385. 1) Australian News, 2) J. Alian Cash Photolibrary. 386. 1) J. Allan Cash Photolibrary. 387. 1) Larry Day. 2) Sygma. 389. 1) Apesteguy, Gamma/Liaison. 390. 1) Reuters/Bettmann. 392. 1) Harper & Row. 395. 1) Douglas Dickins. 396. 1) Bruce Coleman. 397. 1) Christine Osborne. 2) Kim.

Taylor, Bruce Coleman Ltd. 402. 1) E. R. Degginger. 2) Boeing Marine Systems. 404. 1) Tass from Sovioto. 2) Photo by Gilbert H. Grosvenor, courtesy National Geographic Society, courtesy of Bell Family. 406. 1) Ocean Drilling Programme, Texas A&M University. 407. 1) Dan Hulburt. 409. 1) L. Perkins. 2) Michael C. T. Smith, Photo Researchers. 411. 1) Sefton Photo Library. 415. 1) Peter Gonzalez. 416. 1) Larry Day. 3) Larry Day. 418. 1) E. R. Dregginger. 2) Guiseppe Mazza.

Warner of the same

3. 1) Hulton Deutsch Collection, 5, 1) Henry Vogt Machine Co. 6. 2) E. R. Degginger, 7, 1) Austin Post, U.S. Geological Society. 9, 1) Focus on Sports. 11. 1) Focus on Sports. 13. 1) Royden Hobson. 2) Leonardi. 3) Robert Glaze, Artstreet. 17. 1) James R. Holland. 18. Focus on Sports. 19. 1) International DN Ice Yacht Racing Association. 2) Brent Bear, West Light, 21, 1) John Elk III, 22, 1) John Elk III. 23, 1) John Elk III, 2) Mansell Collection. 34. 1) Rex Features. 35. 1) Culver. 37. 1) Rex Features. 45. 1) Anthony Bannister, NHPA. 50, 1) Victor Englebert, 53, 1) Hutchison Library. 2) Jim Pickerell, Black Star. 54. 1) Detail of an engraving by John C. McRae from a drawing (about 1875) by Frederic A. Chapman (Granger Collection). 2) Robert Harding Picture Library. 55. 1) Associated Press/Topham. 56. 1) Gurmeet Thukral, Black Star. 2) Ken Powell, 57, 1) B. P. Wolff, FPG. 2) Charles Slattery, After Image. 59. 1) Tony Stone Photolibrary, London. 2) Spectrum Colour Library. 3) Image Bank. 62. 1) Peter Arnold. 2) Robert Frerck, Odyssey Productions. 64. 1) Robert Frerck, Odyssey Productions. 3) Foto Features. 65. 1) Taurus. 66. 1) Wolfgang Kaehler. 2) B. P. Wolff, Fpg. 3) Gerald L. French, Photofile. 67. 1) J. Allan Cash Photolibrary. 68. 1) The Art Institute of Chicago. 2) Rupert Leach, Shostal. 3) The Art Institute of Chicago, gift of Mr and Mrs Robert Andrew Brown. 69. 1) R. G. Everts, Photo Researchers. 2) Rupinder Khullar, Aloz Images. 3) Emil Muench, Photri. 4) D. Forbert, Shostal. 5) Foto Features. 69. 1) Bjorn Klingwall. 2)) NHPA. 70.1) Ardea. 71. 1) Ardea. 73. 1) Rupinder Khullar, Atoz Images. 2) B. P. Wolff, Magnum. 74 1) Brian Brake, Photo Researchers. 77. 1) Spectrum Colour Library. 78. 1) Hutchison Library. 82. 1) Spectrum Colour Library. 83. 1) C. M. Dixon. Ronald Sheridan/Ancient Art & Architecture Collection. 3) Douglas Dickins. 84. 1) Bridgeman Art Library/Fine Art Society. 2) Ancient Art & Architecture Collection. 85. 1) Allan Eaton/Ancient Art & Architecture Collection. 2) Hutchison Library. 86, 1) Michael Holford. 2) Ancient Art & Architecture Collection. 3) Ann & Bury Peerless Picture Library. 87. 1) Douglas Dickins. 2) Spectrum Colour Library. 88. 1) Michael Holford. 2) Michael Holford. 89. 1) Courtesy of the Arthur M. Saddler Museum, Harvard University, Massachusetts, Cambridge. Collection. 2) C. M. Dixon. 90. 1) Museum of Modern Art, Delhi. 91. 1) Museum of Modern

Art. Delhi. 2) Museum of Modern Art, Delhi. 92, 1) Douglas Dickins. 93, 1) The Hutchison Library, 2) Nilmani Kathak Kendra (Institute of Classical Indian Dance). 94. 1) Robert Harding Picture Library. 2) Spectrum Colour Library, 95, 1) Robert Harding Picture Library. 96, 1) Franklin Photo. 102, 1) Spectrum Colour Library. 2) C. M. Dixon. 3) Robert Harding Picture Library. 4) C. M. Dixon. 5) C. M. Dixon, 103, 1) British Museum, 2) British Museum. 3) Pat Bahree. 4) C. M. Dixon. 104. 1) British Museum. 105, 3) British Library. 106, 1) Michael Holford. 2) C. M. Dixon. 107. 1) Michael Holford. 108. 1) Robert Harding Picture Library. 2) C. M. Dixon. 109.1)British Library. 111.) 1) Reproduced by courtesy of the trustees of the Chester Beatty Library, Dublin. 2) British Museum. 3) British Museum, 112, 1) Mary Evans Picture Library. 2) C. M. Dixon. 113. 1) C. M. Dixon. 115. 1) Mary Evans Picture Library. Hutchison Library.124. 1) Robert Harding Picture Library, 181, 1) James P. Rowan, 183, 1) Attack at Dawn (about 1900) an oil painting on canvas by Charles Schreyvoge; the Thomas Gilcrease Institute of American History and Art, Tulsa, Oklahoma. 184. 1) John Elk II Bruce Coleman. 2) Fujihira. 185. 1) Harrison Forman, 2) F. Schreider, Photo Researchers. 187. 1) Harrison Forman. 191. 2) Harrison Forman. 3) Luc Bouchage, Rapho Guillumette, 192, 1) Jackum Brown, 193, 1) J. Allan Cash Photolibrary. 2) J. Allan Cash Photolibrary. 194. 1) Spectrum Colour Library. 2) Spectrum Colour Library. 195. 1) British Library, 196, 1) K. Mackinnon/Bruce Coleman. 2) J. Allan Cash Photolibrary. 197. 1) British Library, 198, 1) British Library, 199, 1) British Library. 200. 1) British Library. 203. 1) Image Bank. 2) Rory Dell/Camera Press. 206. 2) Karachi Museum, Pakistan (Art Resource). 3) U.C. Berkeley Expedition to Harappa and the Govt. of Pakistan Department of Archaeology and Museums (J. M. Kenoyer). 210. 1) Courtesy Newberry Library, Chicago. 211. 1) Granger Collection. 216. 1) Mansell Collection. 217. 1) Lithograph by Engelmans; La Vie du Rail Magazine, Paris. 218, 1) Granger Collection. 219, 1) Mansell Collection. 220. 1) John Gussman/Uniphoto. 2) Robert H. Glaze, Artstreet. 3) Kevin L. Martin. 4) Voscar/Uniphoto. 223. 2) Galaxy Carpet Mills Inc. 224, 1) David R. Frazier. 225, 1) Colour Library. 230.1) Internationale Bilderagentur. 235. 1) J. Allan Cash Photolibrary. 236. 1) Design from Sheraton's Cabinet Directory (1803); the Metropolitan Museum of Art, Purchase Gifts of Mrs. Russell Sage and various other donors, 1969. 237. 1) Oil painting on canvas (1865); the Metropolitan Museum of Art, gift of George A. Hearn, 1894. 238. 1) Image Bank. 241. 4) Life Magazine Time Inc. 276. 1) Richard Wood, Taurus, 2) Pastner, FPG. 3) Jan Hinsch/Science Photo Library. 281. 2) Charles Callari, Joel Siligson, and Andrew Thompson, Eastman Kodak Company. 282. 1) Hedrich-Blessing. 2) Sleepy-Hollow Restorations, North Tarrytown, N.Y. (Louis H. Frohman). 2) Ezra Stoller. 283. 1) Home of

Mr. & Mrs. Norman J. Hinckley Jr. 284. 1) Designer Eero Saarinen (Ezra Stoller). 2) Michel Proulx. 285, 2) Designer David Bell, John T. Hill. 286. 1) Primois from Brigitte Baert. 2) Louis Reens. 294. 1) Gamma. 321. 1) Douglass Baglin. 324. 1) National Gallery of Ireland, Dublin. 2) L. S. Stepanowicz, Panographics. 327. 1) Erwin W. Müller. 329. 1) Grant Heilman. 330. 1) Douglass Baglin. 331. 1) Persian mosque (early 1600's); Georg Gerster, Photo Researchers. 332. 2) N. Faridani, Stockphotos. 334. 1) Philippe Ledru, Sygma. 2) Gerry Cranham, Photo Researchers, 3) Photri from Marilyn Gartman Agency. 336. 1) R. & S. Michaud, Woodfin Camp, Inc. 2) N. Faridani, Stockphotos. 337. 1) Alain Noques, Sygma. 339. 1) Sipa Press from Black Star. 349, 1) Bord Failte Éireann. 2) Robert Harding Picture Library. 351. 1) Spectrum Colour Library. 2) Spectrum Colour Library. 3) Image Bank. 352. 2) The Slide File. 3) DPI. 354. 1) Thomas Braise, The Stock Market. 2) Shostal. 355. 1) Fionnbar Callanan, 357, 1) Fionnbar Callanan, 362, 1) Defence Forces Press Office. 367. 1) Bord Fáilte Éireann. 2) Fionnbar Callanan. 368. 1) Fionnbar Callanan. 369. 1) Bord Failte Eireann. 370. 1) Fionnbar Callanan. 371. 1) Bord Fáilte Éireann. 372. 1) Engraving from the London Illustrated News, Oct. 5, 1850; Radio Times Hulton. 376. 1) Mansell Collection. 377, 1) Radio Times Hulton. 382. 1) Topham. 387. 1) Milt and Joan Mann. 389. 1) G. Lucas, Atoz Images, 2) Hanna Mining Company, 401. 1) American Iron and Steel Institute. 405. 1) Rural Water Commission of Victoria. 409. 1) Mary Evans Picture Library. 3) Mary Evans Picture Library, 413, 1) F. L. Kennett, George Rainbird Ltd. 414, 1) Shostal. 417, 1) Robert Harding Picture Library. 2) J. Allan Cash Photolibrary. 418. 1) R. & S. Michaud, Woodfin camp, Inc. 420. 2) Ampliaciones y Reproducciones MAS. 3) private collection, Paris. . 444. 1) Spectrum Colour Library. 447. 1) Earl Roberge, Photo Researchers. 449. 1) Spectrum Colour Library. 2) Image Bank. 3) Tony Stone Photolibrary, London. 450. 1) Dallas and John Heaton, The Stock Shop. 2) Blaine Harrington, The Stock Market. 3) E. Streichan, Shostal. 455. 1) Giovanna Grazia Nerl. 2) Nuvoletti. Oppersdorff, Photo Researchers. 3) George Hall, Woodfin Camp, Inc. 4) Dino Fracchia, Grazia Neri. 456. 1) John F. Mason, The Stock Market. 457. 1) SCALA/Art Resource. 3) Lelli & Masotti, La SCALA Theatre. 4) Corning Museum of Glass, Corning, N.Y. 458. 1) Marcello Bertinetti, Photo Researchers. 460. 1) Adam Woolfitt, Woodfin Camp, Inc. 2) Rene Street form Marilyn Gartman. 462. 1) Sipa Press. 2) Eric Futran from Marilyn Gartman. 464. 1) Bruno Rizzato, Grazia Neri. 2) John Sims, TSW Click/Chicago. 3) Tony Stone Photolibrary, London. 486, 2) SCALA/Art Resource. 467, 1) Robert Harding Picture Library. 468. 1) Pictorial Parade. 470. 1) Piero Guerrini, Gamma/Liaison. 476. 1) Odyssey Productions. 477. 1) A-Z Collection. 2) Naud, AAA Photo. 3) Loren A. McIntyre. 4) J. Horace McFarland. 6) Giuseppe Mazza. 478. 1) Keith Gunnar, Bruce Coleman Inc.

J-K

3. 1) Walter Knirr. 3) Joseph Van Wormer, Bruce Coleman Inc. 4, 1) Sally Ann Thompson/Animal Photography. 2) John Wightman, Colorific. 5. 1) Gerald Cubitt/Bruce Coleman, 2) Linda Kelly-Hassett from Caryle Calvin. 6. 1) Nils Jorgensen, Rex Features. 2) Brent Jones. 7. 1) Wide World. 2) Epic Records. 3) Chicago Historical Society. 11. 1) Michael Holford. 12. 1) Spectrum Colour Library. 13. 1) Spectrum Colour Library. 14. 1) Robert Harding Picture Library. 15. 1) J. Allan Cash Photolibrary. 16. 1) British Library. 21. 1) Peter Fronk, Van Cleve Photography. 23, 1) Missouri Historical Society. 24. 1) Virginia Division of Tourism. 25. 1) J. Allan Cash Photolibrary. 26. 1) Spectrum Colour Library. 27. 1) Douglas Dickins. 28. 1) Robert Harding Picture Library. 32. 1) Tony Stone Colour Library. 33. 1) Tony Stone Photolibrary, London. 3) Tony Stone Photolibrary, London. 2) Robert Harding Picture Library. 34. 1) Image Bank, 35, 1) Spectrum Colour Library. 2) Tony Stone Photolibrary, London. 3) Image Bank. 38. 1) Frank Spooner Pictures/Gamma. 39. 1) Milt and Joan Mann. 2) Dave Bartruff. 40. 2) John Launois, Black Star. 41. 1) Milt and Joan Mann. 2) R. L. Zentmaier, Photo Researchers. 3) Bernard Pierre Wolff, Photo Researchers, 42, 1) Joseph F. Viesti, 2) Fred Ward, Black Star. 43. 1) Orion Press from The Stock House, 2) Milt and Joan Mann, 3) Fred J. Maroon from Louis Mercier. 44. 1) Milt and Joan Mann. 2) Paolo Koch, Photo Researchers. 45. 1) Paolo Koch, Photo Researchers. 2) Mike Yamashita, Woodfin Camp, Inc. 46. 1) Robert Glaze, Artstreet. 2) Werner Forman Archive. 47. 1) Orion Press. 2) Orion Press. 48, 1) Burt Glinn, Magnum. 2) Noriyuki Yoshida from Scott Henriquez. 50. 1) Robert Harding Picture Library, 51, 1) Donald Smetzer, Click/Chicago. 2) Orion Press. 52. 2) Donald Smetzer, Click/Chicago. 3) Paul Chesley, 54, 1) Milt and Joan Mann, 56, 1) Fenollosa-Weld Collection. 57. 1) Kurihama Administration Center (International Society for Educational Information, Tokyo, from the Consulate General of Japan, Chicago). 59. 1) Wide World. 62. 3) John V. Grohol from Michael and Carole Benson (Japanese Chin Club of America). 63. 1) Artstreet. 65. 1) Fletcher Fund, 1929. 2) Whittelsey Fund, 1949. 3) Roger's Fund 1936. 4) The Howard Mansfield Collection, Rogers Fund, 1936. 66. 1) AP/Wide World. 2) Percy D. Slocum, Animals Animals/Earth Science. 68. 1) Robert Harding Picture Library. 2) Hutchison Library. 69, 1) Robert Harding Picture Library. 70, 1) Robert Harding Picture Library, 71, 1) J. Allan Cash Photolibrary. 2) Robert Harding Picture Library. 72. 2) Patrick Clement/Bruce Coleman, 3) John Cancalosi/Bruce Coleman, 4) Pekka Helo/Bruce Coleman. 73. 1) David Redfern/Retna. 2) John Bellissimo, LGI. 3) Gary Gershoff, Retna. 74. 1) Duncan P. Schiedt. 75. 1) From the collection of Dr. Edmond Souchon. 2) Pl/Bettmann. 76. 1) Down Beat Magazine. 2) Down Beat Magazine. 77. 1) Duncan P. Schiedt. 2)

Culver. 78. 1) Culver. 2) John Bellissimo, LGI. 80. 1) Michael T. J. Kulik. 82. 1) Robert E. Pelham, Bruce Coleman Inc. 2) Bob and Valerie Taylor, Bruce Coleman Inc. 83. 1) Bettmann Archive. 2) Granger Collection. 84. 1) Bettmann Archive. 2, Walter Bird.

85. 2) Vatican City; SCALA/Art Rescue. 3) J. M. Dent. 86. 1) Mansell. 2) Oil painting on wood panel (early 1400's) by Jan van Eyck; Detroit Institute of Arts, City Appropriation, 87. 1) Ann Zane Shanks, 89, 1) Richard Lobell, 2) George Rodger, Magnum. 92. 1) Archie Lieberman. 2) Bernard Gotfryd, Woodfin Camp, Inc. 3) Fred Mayer, Woodfin Camp, Inc. 96. 1) SCALA. 97. 2) SCALA. 99. 2) Gift of Robert Treat Paine II in memory of his son, Walter Cabot Paine. 100, 1) Cliché Musées Nationaux. 101. 1) Giraudon/Art Resource. 102. 1) Photri. 103. 1) General Electric. 105. 1) LTV Missiles & Electronics Group, 2) Northrop Corporation. 3) United Airlines. 4) Beech Aircraft Corporation. 107. 1) Wright-Patterson Air Force Museum, 108, 2) U.S. Army Corps of Engineers, Portland District. 109. 1) SCALA/Art Resource. 2) Art Resource. 3) Gift of Shoji Yamanaka, in memory of Alan Priest, 1978. 4) Lee Boltin. 110. 1) Widener Collection. 111. 1) Hutchison Library. 3) Hutchison Library, 112, 1) Charles Harbutt, Magnum, 115, 1) Nathan Benn, Woodfin Camp, Inc. 116, 1) Yivo Institute for Jewish Research, New York City. 2) United Press Int. 117. 1) Israel Government Press Office. 2) Cameramann International Ltd. 3) Carvie Calvin. 119. 1) Hulton Deutsch Collection. 120. 1) M. Silverstone, Magnum. 2) Walter R. Aguiar. 121. 1) Josse. 124. 1) Image Bank. 2) Telegraph Colour Library, 3) Spectrum Colour Library. 125. 1) Robert Harding Picture Library. 2) Telegraph Colour Library. 126. 1) Africana Museum. 2) Travelpix from FPG. 127, 1) Walter Knirr. 128, 1) Granger Collection, 130, 1) Mary Evans Picture Library. 2) Scottish Tourist Board. 131, 1) SCALA/Art Resource, 132, 1) The Ring Inc. 2) P. A.-Reuter. 133. 1) United Press Int. 134, 1) ESTO. 136. 1) Yahaya Ismail. 139. 1) Francis Jalain, Explorer. 2) U.S. Naval Academy. 141. 1) C. Ferrare, Imagress from NSP. 2) C. Ferrare, Imapress from NSP. 143. 1) Rami G. Khouri. 145, 1) Sautereau, Photo Researchers. 148, 1) Visual Education Service. 149. 1) AP/Wide World, 150, 1) Larry Day. 152, 1) Berenice Abbott. 153, 1) Embassy of Spain. 154. 1) Ted Spiegel, Black Star. 3) Charles Harbutt, Magnum. 157, 1) Irvin L. Oakes, Photo Researchers. 2) Grant Heilman. 159. 2) David Phillips, 160. 1) E. R. Degginger, 161, 2) Keystone, 164, 1) M. Tonooka, Bruce Coleman, Inc. 165. 2) E. R. Degginger, 168, 2) Pantheon, 169, 1) A-Z Collection, 2) Brian Hawkes, 3) K. Wothe/Bruce Coleman. 170. 1) Jonathan T. Wright, Bruce Coleman Ltd. 172. 1) Yerkes Observatory, 173, 1) Eric Crichton/Bruce Coleman, 179, 1) Alfred Knopf, 181, 1) Michael Fogden, Bruce Coleman Inc. 2) Debbie Dean. 3) Dick Loftus. 182. 1) Australian Picture Library. 183. 1) Hutchison Library. 184. 1) Hawaii State Archives, Honolulu. 185. 1) D. B. Croft. 2) Photography

Pty. Ltd. 186. 2) Douglass Baglin. 4) G. R. Roberts. 187. 1) G. R. Roberts. 2) G. R. Roberts. 3) Bay Picture Library. 4) G. R. Roberts, 189, 1) J. Fennell/Bruce Coleman. 190. 1) Ann & Bury Peerless-Picture Library. 2) Garry D. McMichael, Hillstrom Stock Photo. 192. 1) Robert W. Mitchell, Earth Scenes. 2) W. H. Hodge from Peter Arnold. 3) Russ Kinne, Photo Researchers. 193. 2) G. K. Brown, Ardea. 194. 1) Sheedy and Long, Sports Illustrated, Time Inc. 195, 1) Culver. 196. 1) Spectrum Colour Library. 198. 1) Hutchison Library. 2) Spectrum Colour Library. 199. 1) Douglas Dickins. 201. 1) Robert Harding Picture Library. 2) Hutchison Library. 202, 1) Bill Campbell, Sygma, 2) John Shaw/Bruce Coleman. 203. 1) Science Museum, London. 2) Jeff Foott, Bruce Coleman Ltd. 204. 1) Danny Kave. 2) Keith Gunner, FPG. 205. 1) SCR Library, 207. 2) Paul West, Government Photographic Service, Canberra. 208. 1) The Museum of Modern Art, Film Stills Archive. 210. 1) Jim Connolly. 211, 1) Bettmann Archive, 212, 1) American Foundation for the Blind, Inc. 2) Photoworld from FPG, 213, 1) Howell Conant. 2) National Film and Sound Archive, 214, 1) Lewis Trusty, Animals Animals. 215. 1) National Portrait Gallery. 216. 1) Wide World. 2) U.S. Senate. 3) National Library of Australia. 217. 1) Official color photography by Alfred Eisenstaedt, Life. 218. 1) Ewing Galloway. 220. 1) Britain on View. 221. 1) J. Allan Cash Photolibrary. 223. 1) John Nation. 224. 1) Robert Frerck, 225, 1) Robert Frerck. 227. 2) Robert Frerck. 3) Robert Frerck. 228. 1) Robert Frerck, 2) Robert Frerck, 229, 1) Robert Frenck. 2) Robert Frenck. 232, 1) Brown Bros. 233. 1) Roderick Johnson, Images of India. 234. 1) Gerald Cubitt/Bruce Coleman. 235. 1) Spectrum Colour Library. 237. 1) Fionnbar Callanan. 238. 1) Fionnbar Callanan. 2) Fionnbar Callanan. 242, 1) Alain Dejean, Sygma. 2) Wide World. 243. 1) Robert W. Young, DPI. 248. 1) Flornbar Callanan. 250. 1) Ralph A. Reinhold, Animals Animals, 252, 1) Victoria Beller-Smith from E. R. Degginger. 253. 1) Russ Adams. 254, 1) Ebony Magazine. 255, 1) Courtesy V. Phelan. 2) Walter Chandoha. 257. 1) Robert Harding Picture Library. 2) C.B. & D.W. Frith/Bruce Coleman. 258. 1) British Library. 2) British Library. 3) British Library. 4) British Library. 5) British Library. 3) By courtesy of Mr. Simon Wingfield Digby, Sherborne Castle. 4) By permission of the Earl of Rosebery. 259. 3) Press Association, 270, 1) His Grace, The Archbishop of Canterbury. 271. 2) Courtesy of His Grace, The Archbishop of Canterbury, and the Trustees of Lambeth Palace Library, 3) National Portrait Gallery, 275, 1) Reproduced by Gracious Permission of Her Majesty the Queen. 2) Clive Friend, Woodmansterne. 3) Hardwick Hall; National Trust. 279. 4) Reproduced by Gracious Permission of Her Majesty The Queen. 5) Pietro Annigoni, Camera Press. 281. 1) Gaytone Productions. 282, 1) National Library of Australia. 284, 1) Jules Bucher, Photo Researchers. 2) Francisco Erize, Bruce Coleman Ltd. 285, 1) Fionnbar Callanan, 286, 1) Shostal, 2) Brown

Bros. 288. 1) Cameramann International, Ltd. from Marilyn Gartman. 289. 1) Kendall Johnson and Thelma Moss, UCLA, 290, 1) Wide World. 291. 1) J. L. G. Grande/Bruce Coleman. 292. 1) David Harvey, Woodfin Camp, Inc. 294. 2) National Publicity Studios. 1) The Bridgeman Library/Osterreichisches Museum, Vienna, 3) Brown Bros. 298. 1) Mutual of Omaha. 2) Tate Gallery. 299. 2) Walter Bird. 3) BBC Hutton from Bettmann Newsphotos. 302. 1) 1917 by Charles Scribner's Sons. Used by permission of the publisher. 306. 1) Burlington Industries. Inc. 311. 1) Bill N. Kleeman, Tom Stack & Associates. 313. 1) Regis Bossu, Sygma. 315. 1) Room of Contemporary Art Fund. 316. 1) Bruce Coleman Inc. 2) Diane Pearce, 317, 1) Photographic Library of Australia. 2) Karsh of Ottawa. 318. 1) Korean Information Office. 2) Hiroji Kubota, Magnum. 319. 1) Ministry of Culture and Information, Seoul, Korea, 322, 1) J. P. Laffont, Sygma. 323. 1) Korean Information Office, 324, 1) Korean Information Office. 2) Ministry of Culture and Information, Seoul, Korea. 326. 1) Korean Information Office. 327. 1) Ministry of Culture and Information, Seoul, Korea. 2) Jan Lonn from. Carl Östman, 329, 1) Hong Sung Hyok, Gamma/Liaison, 331, 1) Brown Bros. 332, 1) Westfield, 334, 1) Kurt Scholz, Shostal, 335, 1) Clive Webber. 337. 1) Dinamika/Yahaya Ismail. 338. 1) Dinamika/Yahaya Ismail. 2) Ismail. 339. Dinamika/Yahaya Dinamika/Yahaya Ismail. 344. 2) Stephane Compoint, Sygma. 345. 1) Delanaye, Sipa Press 350. 1) Frans Lanting, Minten Pictures.

2. 1) ZEFA. 3. 1) M. Decet. 2) ZEFA. 4. 1) Hulton-Deutsch Collection, 5, 1) William Curtsinger, Photo Researchers. 6. 1) Ronald Sheridan, 7, 1) Lace Museum, Mountain View, Calif. 8. 6) Lace Museum, Mountain View. Calif. 9. 1) Michael Philip Manheim from Marilyn Gartman. 2) Field Museum of Natural History (Diane Alexander White). 3) E. R. Degginger. 10. 1) Carved red lacquer plate (1573-1620); Art Institute of Chicago, gift of Mr. and Mrs. Philip Pinsof, 1961. 11. 1) Jerry Wachter, Focus on Sports. 12, 2) Kitty Kohout. 13. 1) Addison Gallery of American Art, Phillips Academy, Andover, Mass. 15. 2) W. Campbell, Sygma. 16. 1) United Press Int. 18. 1) Thomas Hollyman, Photo Researchers. 2) J. L. Stage, Photo Researchers. 21. 1) Richard Desgrand, 23, 2) Photographic Library of Australia. 24. 2) Richard Desgrand. 28. 1) Photographic Library of Australia. 30. 1) Photographic Library of Australia. 32. 2) The Mitchell Library. 34. 1) Lithograph by Robert Hancock, National Portrait Gallery, London. 36. 1) Robert J. Wayland, 37. 1) British Crown Copyright, Science Museum, London, 2) Wadsworth Atheneum, Hartford, Conn. Gift of J. P. Morgan. 4) Museum of Fine Arts, Boston, M. & M. Karolik Collection. 5) British Crown Copyright, Science Museum, London, 6) British Crown Copyright, Science Museum, London. 38. 1) Hans Reinhard, Bruce Coleman Inc. 39. 1) Heather Angel. 40. 1) J.

Allan Cash Photolibrary. 2) J. Allan Cash Photolibrary, 41, 1) Blackburn Museums & Art Galleries, 44, 1) J. Allan Cash Photolibrary. 44.2.David R. Frazier. 45. 1) John Dewar & Sons. 46. 1) National Portrait Gallery. 2) Robert Harding Picture Library. 47. 1) Church Information Office. 2) Mitchell Library. 3) Australian News. 48. 1) New Zealand Embassy. 2) Library of Congress. 56. 1) Mitchell Library. 2) National Portrait Gallery. 3) Brown Bros. 57. 2) SCALA/Art Resource. 58. 2) Fionnbar Callanan. 59. 1) René Balanant, AAA. 63. 1) Bryan and Cherry Alexander, Bruce Coleman Inc. 2) Bryan and Cherry Alexander. 3) Bryan and Cherry Alexander. 67. 1) Kim Taylor, Bruce Coleman Ltd. 2) Giuseppe Mazza. 3) E. R. Degginger. 4) E. R. Degginger. 5) E. R. Degginger. 68. 2) Archives Nationales du Québec. 69. 1) Chuck O'Rear, West Light. 2) Chuck O'Rear, West Light. 3) Hank Morgan, Rainbow. 4) Coherent General, Inc. 70. 1) Lawrence Livermore National Laboratory. 2) AT&T Bell Laboratories. 71. 1) NASA. 74. 1) Hughes Research Laboratories. 76. 1) Loren McIntyre. 2) Andrew Rakoczy, Bruce Coleman Inc. 3) Odyssey Productions. 4) Nicholas Devore II, Bruce Coleman Inc. 81. 1) Jeffrey Sylvester, Alpha. 2) David Mangurian. 82. 1) Odyssey Productions. 2) Chip and Rosa Maria Peterson. 83. 1) George Holton, Photo Researchers. 84. 1) Fred Fehl. 2) Tom Hollyman, Photo Researchers. 85. 1) The People Go to the University-the University Goes to the People (1956); Carter, Black Star. 2) Loren McIntyre. 86. 1) Flagg 2) Corporation. Productions. 87. 1) Odyssey Productions. 89. 1) Granger Collection. 91. 1) Museum of Modern Art of Latin America. 92. 1) Historical Pictures Service, 93, 1) Theodore Roosevelt Collection, Harvard College Library. 2) Karl Schumacher, The White House. 94. 1) United Press Int. 2) J. Pavlovsky, Sygma. 97. 1) Popperfoto. 101. 1) Image Bank. 102. 1) Tass from Sovfoto. 103, 2) TASS from Sovfoto. 104, 1) Peter Stone, Black Star. 105, 1) Garden Picture Library/Brian Carter. 106. 1) Granger Collection. 2) Chester Dale Collection. 107. 1) D. & J. Heaton, Click/Chicago. 2) ,G. D. Plage, Bruce Coleman Inc. 3) Gerald A. Corsi, Tom Stack & Assoc. 108. 2) Grant Heilman. 3) United Press Int. 109. 1) Mary Evans Picture Library. 2) Aberdeen Art Gallery and Museums. 114. 1) Granger Collection. 118, 3) O. M. Scott & Sons. 120. 1) Grove Press. 121. 1) Bridgeman/Art Resource. 122. 1) Collection Whitney Museum of American Art, New York 3) Sally City. 2) Mitchell Library. Soames/Camera Press. 4) Mitchell Library. 123. 1) Kerry Dundas/Camera Press. 124. 2) Johnson Controls, Inc. 126. 1) Edward S. Ross. 2) Tony Castelvecchi, Foto Place. 3) Leonard Lee Rue II Bruce Coleman Inc. 132. 1) Ray Hunold. 3) Edward S. Ross. 4) Robert H. Glaze, Artstreet. 5) Dick Keen. 6) L. West, Bruce Coleman Inc. 133. 1) Edward S. Ross. Edward S. Ross. 134.
 UPI/Bettmann Newsphotos. 135.
 Allan A. Philiba. 137. J. M. Charles, Photo Researchers. 142. 6) Cromwell Leather Company, Inc. 143. 1) Field Museum of Natural History. 2) The Metropolitan Museum of Art, Gift of Gustavus A. Pfeiffer, 1948. 144. 1) David R. Frazier. 145. 2) Lebanon Tourist & Information Office. 146. 1) Frank C. Dougherty, Click/Chicago. 147. 1) A. Dejean, Sygma. 150. 1) Independence National Historical Park Collection. 151. 1) Reuters/Bettman Newsphotos, 2) AP/Wide World, 3) Frithfoto from Bruce Coleman Ltd. 152. 1) Leeds City Council. 154. 1) Mary Evans Picture Library. 155. 1) Granger Collection. 157. 1) Photo Stage. 158. 1) Leicester City Council J. Allan Cash Photolibrary, 159, 1) Corah, 160, 1) The Mitchell Library. 161. 1) From Strange Journey by Alec Chisholm, published by Angus and Robertson. 162. 1) Bord Failte Éireann. 163. 1) Tom McHugh, Photo Researchers. 164. 1) Fionnbar Callanan. 165. 1) National Portrait Gallery. 2) Rex Features. 3) Irish Press. 166. 2) Grant Heilman. 167. 2) Historical Pictures Service. 3) Kenneth W. Fink, NAS. 168. 1) D. C. Williamson, London. 169. 1) Sovfoto. 170. 1) G. Chcherbakov, Novosti Press. 174. 1) Tass from Sovfoto. 175. 1) AP/Wide World. 2) Mansell. 176. 1) Royal Astronomical Society 182.1.)Guiseppe Mazza. 2.) Bob and Ira Spring 183.1) D. A. Lopez, M.D. 185. 2) Dennis E. Cox, Click/Chicago. 187. 1) Dennis E. Cox, Click/Chicago. 2) Kitty Kohout, Root Resources. 188. 1) Frazier Photo Library. 194. 1) Fred Lyon, Rapho Guillumette. 2) Western iceberg Lettuce, Inc. 195. 3) Fotomas Index/Barnaby's Picture Library. 198. 1) Oil painting on canvas (1953); collection of the Whitney Museum of American Art, New York City. 2) Siegfried Lauterwasser, Metropolitan Opera. 198. 1) United Press Int. 201. 2) Hutchison Library. 202. 1) Ted Levin, Earth Scenes/Animals Animals. 206. 1) Michelle Burgess, SuperStock. 2) Brent Jones. 207. 1) Homer Sykes, Woodfin Camp, Inc. 2) Thomas S. England, Photo Researchers. 208. 1) Artstreet. 2) Artstreet. 209. 1) Royal Astronomical Society Library. 211. 2) Alphapress from Jeroboam, Inc. 214. 1) Odyssey Productions. 2) Online Computer Library Center. 219. 1) Spectrum Colour Library. 2) Spectrum Colour Library. 222. 1) Ezra Stoller. 2) ZEFA. 223. 1) Normunds Berzins, Image Finders Photo Agency. 226. 1) Novosti Press Agency, Moscow. 227. 1) Asia Foundation. 228. 1) Sven Doehner. 229. 1) Granger Collection. 230. 1) Granger Collection. 231. 1) Granger Collection. 232. 1) Fred Mayer, Woodfin Camp, Inc. 234. 1) Image Bank. 235. 1) Harvard University. 2) Photographic Library of Australia. 236. 1) David M. Doody, Tom Stack & Assoc. 237. 1) J. Paul Kennedy, The Stock Market. 238. 1) G. Chauvel, Sygma. 240. 1) Jana R. Jirak. 2) C. P. Armstrong. 3) C. P. Armstrong. 241. 1) Lick Observatory. 242. 1) Frazier Photo Library. 244. 1) Porterfield-Chickering, Photo Researchers. 245. 1) Manfred Kage from Peter Arnold. 2) Karl Weidmann, Animals Animals. 3) Raymond A. Mendez, Earth Scenes. 4) Marvin Newman, Woodfin Camp, Inc. 246. 1) C. Haagner, Bruce Coleman Inc. 250. 1) Sigurgeir Jonasson. 251. 1) Oxford Scientific Films/Peter Parks. 2) Oxford Scientific Films/Kathie Atkinson. 253. 1) RNLI/Colin Watson. 255.2) Historical Pictures Service. 256. 1) Ron Thomas, FPG. 257. 1) Hanson Planetarium from FPG. 2) Ivan Polunin, Bruce Coleman Inc. 3) FPG. 4) Hank Morgan/SS from Photo Researchers. 261. 5) F. R. Degginger. 6) F. R. Degginger. 7) F. R. Degginger, 8) F. R. Degginger, 265, 1) Mitchell Library. 266. 1) R. L. Goddard, Berg & Associates. 2) United States Lighthouse Society. 267. 1) Richard Desgrand. 2) Rex Features. 268. 1) Larry Lee, West Light. 2) David R. Frazier. 270, 1) David R. Frazier. 2) Bronx High School of Science. 271. 1) Robert H. Glaze, Artstreet. 2) Peter Gonzalez. 273. 1) Leo Starz. 274. 1) The Photographic Library of Australia. 2) Derek Dawson. 275. 1) Grant Heilman. 276. 1) Wide World. 277. 1) Derek Fell. 278. 1) Victor Englebert, Black Star. 280. 2) Slide File. 281. 1) Flonnbar Callanan. 2) Fionnbar Callanan. 282. 1) Grant Heilman. 2) Grant Heilman. 283. 1) R. F. Thomas, Bruce Coleman Inc. 2) Pictorial Parade. 284. 1) Detail of an oil painting on canvas (1911) by Allen Tupper True; Henry E. Huntington Library and Art Gallery, San Marino, Calif. 285. 1) Granger Collection. 289. 1) Culver. 290. 1) J. Allan Cash Photolibrary. 2) Chicago Daily News. 295. 1) Paul Popper. 2) Ewing Galloway. 3) Dennis Green, Bruce Coleman Ltd. 296. 1) Lori Meek Family Collection; David R. Frazier. 298. 1) Norman Myers. 299. 2) Norman Myers, Photo Researchers. 300. 3) Marc & Evelyne Bernheim, Rapho Guillumette. 301. 1) Norman Myers. 2 Richard Dranitzke, Photo Researchers. 302 2) Bronze sculpture (1938); Hirshhorn Museum & Sculpture Gardens, Smithsoniar Institution, Gift of Joseph H. Hirshhorn 1966/Joseph Martin (SCALA/Art Resource) 304. 1) Radio Times Hulton. 305. 2) J. R Eyerman. 306. 2) Robert E. Lyons Photo/Nats. 307. 1) Photri. 308. 1) Bettmann Archive/BBC Hulton. 329.1) TASS from Sovfoto. 330. 1) TASS from Sovfoto. 331. 1 Ricki Rosen, SABA. 333. 1) Heather Angel 335. 1) G. Boutin, Explorer. 336. 1) Oxford Scien tific Films from Earth Scenes. 337. 1 Grant Heilman. 2) John Colwell from Gran Heilman. 338. 1) Mathias Oppersdorff, Photo Researchers. 340. 1) Bob Campbell, Bruce Coleman Ltd. 2) Harold G. Cogger. 341. 1 Karl H. Switak. 2) Warren Garst, Tom Stack 8 Assoc. 342. 1) Jerry Cooke, Animals Animals 343. 1) Pictorial Parade. 2) Hulton Deutsc Collection. 3) United Press Int. 345. 1) Georg H. Harrison, Bruce Coleman Inc. 2) Ale Kerstitch, Black Star. 348. 1) AA Pictur Library. 2) Wide World. 351. 1) Bettman Archive. 352. 1) E. R. Degginger. 3) E. F. Degginger. 353. 1) E. R. Degginger. 2 Hug 354. 2) House. Millbrook Ballantyne/Millbrook House, 355, 1) Millbrook House. 2) Peter J. Howard/Millbrook House 356. 2) Gianni Tortoli, Photo Researcher 357. 2) Heather Angel. 358. 1) Jill P. May. 36 1) Robert Harding Picture Library. 364. Vernon J. Biever. 365. 1) Malcolm J. Gilso Black Star. 2) Rick Strange. 3) G. F. Alle Bruce Coleman Inc. 369. 1) Handfo Photography, 373, 1) Mansell Collection, 374, 1) L. L. T. Rhodes from Nancy Palmer. 375. 1) Brown Bros. 376. 1) Folger Shakespeare Library. 379. 1) Longfellow House. Cambridge, Mass. 2) A drawing by S. W. Rowse, The Longfellow House, Cambridge, Mass. 380, 1) Fionnbar Callanan, 382, 1) W. Bird/Camera Press. 383. 1) Organization of American States. 384. 1) The Mitchell Library. 2) Photographic Library of Australia. 385. 1) Shuel. 386. 1) Tom McHugh, Photo Researchers. 387. 1) Larry Lee, West Light. 390. 1) George Hall, Woodfin Camp, Inc. 391. 1) J. R. Eyerman, 392, 1) Ian R. Gilbert, DPI. 393. 1) Robert Glaze, Artstreet. 394. 1) Culver, 396, 1) Scottish Tourist Board, 399, 1) SCALA/Art Resource. 400, 1) Brown Bros. 2) Giraudon/Art Resource. 401. 1) Culver. 402. 1) Sydney Byrd. 2) Louisiana State University. 404. 1) Fionnbar Callanan. 405. 2) Thomas Craig, Lightwave. 3) Library of Congress. 407. 1) Brown Bros. 408. 1) Sefton Photo Library. 411. 1) United Press Int. 2) Time Inc. 412. 1) Focus on Sports. 417. 1) Panos Pictures Ron Giling, 418. 1) Claire Rydell, 420. 1) David Secombe/The Garden Picture Library, 422, 1) Cameramann International Ltd. from Marilyn Gartman. 423. 1) Philippines Tourist Board. 427. 1) Hulton Deutsch Collection, 2) Hans Reinhard, Bruce Coleman Ltd. 428. 1) Australian News. 2) L. Bertrand, Explorer. 429. 1) Fletcher Fund, 1956. 430. 1) Ronald Sheridan/Ancient Art & Architecture Collection. 2) G. R. Roberts.

M

3. 1) Warren Garst, Tom Stack & Assoc. 2) National Archives. 4. 1) Richard Desgrand. 6. 1) Lensmen. 2) Mary Evans Picture Library. 10. 1) Jerry Cooke, Photo Researchers, 11, 1) Alinari/EPA. 14. 1) U.S. Army. 15. 1) William Allen, Photri. 20. 1) Dwight Ellefsen, Shostal. 21. 1) Godfrey Argent. 22. 1) Mitchell Library. 23. 1) Mitchell Library. 24. 1) Macramé by Mary Walker Phillips, American Craft Council. 27. 1) Bernard Regent, Hutchison Library. 29. 1) Robert Harding Picture Library. 2) Roderick Johnson, Images of India. 30. 1) Gerald Cubitt/Bruce Coleman. 31. 1) Douglas Dickins. 2) J. Allan Cash Photolibrary. 32. 1) Zlotnik, Sipa/Rex. 35, 1) Robert Harding Picture Library. 2) Spectrum Colour Library. 38. 1) Mort Rabinow, Stock, Boston. 40, 1) Artstreet. 43. 2) Granger Collection. 45. 1) Ray Manley, Shostal. 46, 1) Bettmann Archive. 47, 1) Gifford/Wallace, Inc. 48, 1) Milbourne Christopher Collection, 2) Houdini Museum, Niagara Falls, Ont. 49. 2) Dean and Chapter of Lincoln. 52. 1) DPA from Photoreporters. 54, 1) Richard Hutchings, 2) Fermi National Accelerator Laboratory. 3) Peter Pearson, Tony Stone Images. 57. 1) AP/Wide World. 60. 1) Russ Kinne, Photo Researchers. 2) Russ Kinne, Photo Researchers. 62. 1) M. P.L. Fogden, Bruce Coleman Ltd. 63. 1) C. M. Dixon. 2) Michael Holford, 64, 1) Tony Stone Worldwide, 65, 1) Roderick Johnson, Images of India. 66. 1) Michael Holford. 68. 1) W. H. Hodge from Peter Arnold. 69. 1) W. H. Hodge from Peter

Arnold. 2) Dominique Nabokon. Gamma/Liaison, 71, 1) Larry Lefever from Grant Heilman. 72. 1) Grant Heilman. 74. 1) Larry Lefever from Grant Heilman. 2) John Colwell from Grant Heilman, 3) Grant Heilman, 76, 1) Art Resource, 2) Spectrum Colour Library, 3) John Arthur, Impact, 77, 1) Wide World. 80. 1) Peter Schmid, Shostal. 83. 1) Leon V. Kofod. 2) Cameramann International Ltd. from Marilyn Gartman. 84. 1) Tony Stone Photo Library/London. 85. 1) Image Bank. 2) Spectrum Colour Library. 86. 1) Milt and Joan Mann. 2) J. Allen Cash Ltd. 87. 1) David Moore, Black Star. 88. 1) Yahaya Ismail. 89. 1) Yahaya Ismail. 2) Yahaya Ismail. 3) Yahaya Ismail. 90. 1) Yahaya Ismail. 92. 2) Jean Claude Lejeune, Black Star. 93, 2) Yahaya Ismail. 95. 1) Leon V. Kofod. 96. 1) Yahaya Ismail. 97. 1) Yahaya Ismail. 99. 1) British Library. 2) Robert Harding Picture Library. 3) Yahaya Ismail. 100. 1) Yahaya Ismail. 2) Yahava Ismail. 101. 1) Mary Evans Picture Library. 102. 1) British Library. 105. 1) Yahaya Ismail. 106. 1) Imperial War Museum. 107. 1) Dinamika/Information Dept. 108. 1) Dinamika/Information Dept. 109. 1) Dinamika/Information Dept. 111. 1) Frank Castoral, Photo Researchers, 112, 1) Bernard Regent, Hutchison Library. 114. 1) Georg Gerster, Photo Researchers. 2) Wendy Watriss, Woodfin Camp, Inc. 115. 1) Carl Purcell, Click/Chicago. 2) Wendy Watriss, Woodfin Camp, Inc. 116, 1) Ronald Trigg, 119, 1) Steve Panistro. 2) Jenny Mathews/Format. 120. 1) Pauls Malt. 122. 1) Diana Rawso, Photo Researchers. 123. 1) Robert Harding Picture Library. 132, 1) Norman Myers, Bruce Coleman Inc. 2) Leonard Lee Rue II Bruce Coleman Inc. 3) Warren Garst, Torn Stack & Assoc. 133. 1) George Schaller, Bruce Coleman Inc. 2) Joe Branny, Tom Stack & Assoc. 3) H. Albrecht, Bruce Coleman Inc. 134. 1) Rod Allin, Bruce Coleman Inc. 135. 1) R. T. W. from Carl E. Östman. 2) K. W. Fink, Bruce Coleman Inc. 136. 1) Jack Couffer, Bruce Coleman Inc. 2) George Schaller, Bruce Coleman Inc. 3) Leonard Lee Rue II FPG. 139. 1) Field Museum of Natural History (Painting by Charles H. Knight). 140, 1) Isle of Man Department of Tourism. 142. 1) John S. Dunning, Photo Researchers. 2) M. Timothy O'Keefe, Tom Stack & Assoc. 143.1) A.G. Studios. 144. 2) Spectrum Colour Library. 146. 1) Manchester City Council. 147. 1) Great Manchester Countryside Unit. 151. 2) George H. Harrison from Grant Heilman, 152. 1) Courtauld Institute Gallery, London. 2) Art Institute of Chicago. 154. 3) P. Laboute, Jacana, 157, 1) Spectrum Colour Library, 161, 1) M. Harvey, Hutchison Library, 162, 2) Gerald Cubitt/Bruce Coleman. 165. 1) Bettmann Archive. 167. 1) Robert Harding Picture Library. 169. 2) Goodyear Tire and Rubber Company. 3) Robert Harding Picture Library. 171. 1) Green Studio Ltd. 2) Ayer Collection. 173. 1) Eastfoto. 174. 1) G. R. Roberts. 2) Fritz Prenzel. 176. 1) National Publicity Studios. 178. 1) Fritz Prenzel. 2) Fritz Prenzel. 180. 1) G. R. Roberts. 181. 1) G. R. Roberts. 183. 1) David Austen, Stock, Boston. 2) Journalism Services. 3) Bob

Daemmrich, The Image Works. 189. 1) Chicago Aerial Survey, Inc. 190, 1) NASA, 2) U.S. Geological Survey, 3) Chicago Aerial Sur vev, Inc. 191. 1) From Ptolemy's Geography, published in Ulm by Leinhart Holle, 1482, Library of Congress. 2) Harvard Semitic Museum. 193, 1) E. R. Degginger. 2) Jerome Wexler, APF, 3) Werner Schulz, 4) Walter Chandoha. 5) Charles E. Mohr. NAS. 6) Jerome Wexler, APF. 7) E. R. Degginger. 8) C. G. Maxwell, NAS. 194. 1) Geoslides. 2) Loren McIntyre. 195. 1) C. Haagner, Bruce Coleman Inc. 2) Shostal. 197. 3) Georgia Marble Company. 198. 1) National Marbles Tournament, 2) Jerry Brule, Marble Collectors Unlimited. 3) AP/Wide World, 201, 1) Photographic Library of Australia. 202, 1) Brown Bros. 203. 1) Jeff Foott, Bruce Coleman Ltd. 205, 1) Cameramann International, Ltd. 208. 1) Karl Kummels, Shostal. 2) Watercolour (1922); Phillips Collection, Washington, D.C. 3) Peter A. Juley & Son. 209. 1) British Embassy. 210. 1) Joe Viesti. 2) Dan McCoy, Rainbow. 212, 1) Giuseppe Mazza, 2) Robert Harding Picture Library, 215, 2) Rod Williams, Bruce Coleman Inc. 217. 1) Victor Englebert. 218. 1) Ellis Herwig from Marilyn Gartman, 219, 1) John Coletti, Stock, Boston. 2) J. M. Bertrand, Shostal. 221. 1) Hale Observatories. 2) NASA. 222. 1) NASA. 2) Lowell Observatory. 3) NASA. 4) Lowell Observatory. 224. 1) The New Zealand Herald. 225. 1) Frances de Richemond, The Image Works. 227. 1) Photographic Library of Australia. 228. 1) Ray Williams. 2) G. R. Roberts. 3) Photographic Library of Australia. 4) Tom McHugh, Photo Researchers. 5) G. R. Roberts. 229. 1) Douglass Baglin. 2) Fionnbar Callanan. 230. 1) Joe Van Wormer, Bruce Coleman Inc. 231. 1) V. Cehman/Colorsport, 234, 1) Brown Bros. 236. 1) United Press Ltd. 238. 1) Mary Rose Trust, 240, 1) Manley Features from Shostal. 241. 1) British Combine. 2) Granger Collection, 3) Museum of the American Indian, New York City. 247. 1) Bill Gallery, Stock, Boston, 251, 1) Painting by Charles A. Knight, American Museum of Natural History. 252. 1) Universal Match Corporation. 253. 1) Popular Culture Library, Bowling Green University. 255. 1) Alvis Upitis, The Image Bank. 2) Steve Dunwell, The Image Bank. 3) Alvis Upitls, The Image Bank. 262. 1) Collection of S. Max Becker, Jr., Glencoe, III. 2) Gisele Freund. Photo Researchers. 3) Rump Collection. 265. 1) Chris Bonington, Bruce Cole. 2) Paul Popper. 266. 1) Balkin, Pix. 2) Rex Features. 3) Royal Mint. 268. 1) Wolfgang Kaehler. 271. 1) Australian News. 278. 1) Bradley Smith. 2) Lee Boltin. 279. 1) Ampliaciones) Reproducciones MAS. 2) Lee Boltin. 261. 1) Wide World. 283. 1) Fionnbar Callanan. 284. 1) Heather Angel. 287. 1) Brown Bros. 2) Navistar International. 288. 1) Wide World. 289. 1) Sh. Steiner, Sygma. 2) Sydney Morning Herald. 3) Newberry Library, Chicago. 291. 1) John Fairfax. 3) Photograph by Matthew B. Brady, The National Archives, Washington, D.C. 293. 2) Artstreet. 4) Artstreet. 297. 1) Anthony Bannister, NHPA. 299. 1) IBP, Inc. 300. 1) Oscar Mayer Foods

Corporation, 301, 1) Fionnbar Callanan, 302, 1) Keystone. 304. 1) J. Allan Cash Photolibrary, 305, 2) Alinari, 306, 3) Paul Almasy, World Health Organization. 307. 2) Beebe, Custom Medical. 308. 3) Rick Bradv. Medichrome, 309, 2) Larry Mulvehill, Science Source from Photo Researchers, 310, 1) Jim Brown, The Stock Market. 311. 1) Brunel N. Borneo, DPI. 2) United Nations. 312. 1) Custom Medical. 314. 2) Michael Holford. 315. 2) Bettmann Archive. 3) Granger Collection. 316. 1) Boston Medical Library. 3) Bettmann Archive. 317. 1) Aldus Archives. 318. 1) Abbott Laboratories. 3) Medtronic, Inc. 321. 1) Tom Hanley. 324. 1) Ancient Art & Architecture Collection. 2) Charles G. Summers, Jr., Tom Stack & Assoc. 3) Ronald Sheridan. 325. 2) Gerald Cubitt/Bruce Coleman, 326, 1) Christine Steiner, New York Philharmonic. 2) Wide World. 327. 1) Spectrum Colour Library. 2) Wide World. 328. 3) Malaysia Tourist Board. 329. 1) Malaysia Tourist Board. 2) Hulton Deutsch Collection. 330, 1) Charles W. Penn. 2) Hulton Deutsch Collection. 331. 1) Richard Desgrand. 2) Noel Sweeney. 3) Photographic Library of Australia. 333. 2) Australian Picture Library. 335. 2) State Library of Victoria. 337. 1) Australian Picture Library. 2) Australian Picture Library. 338. 1) Australian Picture Library, 340, 1) Pittsfield, Mass. 344, 1) A. Aubrev Bodine, 2) Brown Bros. 345. 1) AdW/Frobus. 346. 1) Historical Pictures Service, Chicago. 354. 1) David R. Frazier. 355, 1) 1966 Harper & Row, Publishers. 358. 1) Australian High Commission, London. 359. 1) Bettmann Archive. 360. 1) British Petroleum. 2) British Petroleum. 362. 1) Russ Kinne, Photo Researchers. 363. 1) NASA. 2) Cossé Brissac collection (Giraudon/Art Resource). 365. 1) Six Flags Great America. 367. 1) Woodmansterne. 369. 1) Dick Skrondahl. 372. 1) Grant Heilman. 375. 1) Garrett Electronics. 380. 1) Meteor Crater Enterprises. 381. 1) P. Hollembeak, American Museum of Natural History, 391, 1) George Philip & Son Ltd. 393. 1) Jaques Thomas, explorer, 396. 1) Bettmann Archive, 397. 1) E. R. Degginger, Bruce Coleman Inc. 396. 1) Flag Research Center. 399. 1) Robert Frerck. 2) Tony Stone Worldwide/Murray & Tony Stone 3) Associates. Worldwide/Geraldine Prentice. 4) Robert Frerck. 400. 1) Harvey Lloyd, The Stock Market. 2) Steven D. Elmore, The Stock Market. 405. 2) Lee Foster, Bruce Coleman Inc. 406. 1) Chip & Rosa Maria Peterson. 2) Chip & Rosa Maria Peterson. 407. 1) Richard Steedman, The Stock Market. 2) Chip & Rosa Maria Peterson. 3) Frederica Georgia, Photo Researchers. 408. 1) Melinda Berge, Bruce Coleman Inc. 409, 1) Giraudon/Art Resource. 2) Sergio Dorantes. 410. 1) Bruce Coleman Inc. 2) Victor Englebert. 412. 1) Vardene Veisser, Berg & Associate. 2) Keith Gunnar, Bruce Coleman Inc. 413. 1) Tom McHugh, Photo Researchers. 416. 1) Source: International Monetary Fund; World Bank. 2) Timothy Eagan, Woodfin Camp, Inc. 417. 1) Albano Guatti, The Stock Market. 2) Sergio Dorantes. 419. 1) Luis S. Giner, The Stock Market, 420, 1) Robert Frerck, 423, 1) UPI/Bettmann. 424. 1) James Davis Travel Photography, 425, 1) Robert Frerck, 427, 3) Spectrum Colour Library. 4) Tony Stone Photolibrary, London. 428. 1) Haroldo de Farla Castro, FPG. 429. 1) Robert Frerck. 430. 1) Robert Frerck. 438. 1) Eastman Kodak Company. 439. 1) David R. Frazier Photolibrary. 445. 1) Giraudon. 450. 1) Pierpont Morgan Library, New York City. 451. 1) Michael Holford. 453. 1) Dallas and John Heaton, Click/Chicago. 2) Richard Lobell. 455. 1) Hutchison Library. 457. 1) David Rubinger, Black Star. 459. 2) J. Andrada, Bruce Coleman Ltd. 462. 1) Erika Stone from Peter Arnold. 463. 1) Ted Spiegel, Black Star. 485. 1) Melissa Grimes-Guy, Photo Researchers. 2) Tom Tracy. 466. 1) Source: U.S. Agricultural Research Service. 468. 1) Terry Wild. 469, 1) Tom Tracy. 470, 3) E. R. Degginger. 472. 1) Tate Gallery. 475. 2) Culver. 476. 1) Granger Collection. 478. 1) Shostal, 2) Dick Dietrich, FPG. 3) R. & S. Michaud, Woodfin Camp, Inc. 480. 1) Tom Hanley. 2) United Press Int. 482, 1) Michael T. J. Kulik. 487. 1) Breck P. Kent. 3) Breck P. Kent. 488. 1) E. R. Degginger. 489. 1) Spectrum Colour Library. 490. 1) Ming vase (1573-1620); the Art Institute of Chicago, gift of Russell Tyson. 491. 1) Nicholas Devore II Bruce Coleman Inc. 492, 1) ZEFA, 494, 1) Paolo Koch, Photo Researchers. 495. 2) Collier/Condit, Stock, Boston. 496, 1) Torn Brakefield, Bruce Coleman Inc. 2) Ray F. Hillstrom. 498. 2) Rollin Geppert, West Stock. 500.1) Robert Harding Picture Library, 501, 1) Hutchison Library. 502, 1) The Walters Art Gallery, Baltimore. 2) Granger Collection. 503. 1) Royal Mint. 505. 1) George E. Jones II Photo Researchers, 2) Statue by H. H. Kitson; Michael Philip Manheim, The Stock Solution. 507. 1) Bequest of Kay Sage Tanguy. 510. 1) Neveu, Gamma/Liaison. 511. 1) Richard and Mary Magruder. 512. 2) Delta Queen Steamboat Co. 513, 1) Robert H. Glaze, Artstreet. 514, 2) R. Hamilton Smith. 515, 1) Stuart S. White. 516. 1) Martha Swope. 517. 1) United Press Int. 518, 1) Mitchell Library. 520, 1) Wide World Photos. 2) Culver. 522, 1) Mobile Chamber of Commerce. 523, 1) Metal Construction (1978) by Alexander Calder National Gallery of Art Washington D.C. (Ken Firestone). 2) SCALA/Art Resource. 524. 1) Champion Home Builders Co. 2) John & Penny Hubley. 525. 1) Pascal Kyrlazis, Sygma. 2) A. P. Paterson/Ardea, London. 3) Hal H. Harrison from Grant Heilman. 526. 1) Bequest of Miss Adelaide Milton de Groot. 527. 1) Iranian Embassy. 2) Tannenbaum, Sygma. 3) Edmund Scientific Co. 530. 1) A. Boulat, Sipa Press. 2) Charles E. Mohr, Photo Researchers, 532, 1) Andy Williams, 534, 1) E. R. Degginger. 2) National Photographic Service, Versailles. 536, 1) Mark Boulton, Bruce Coleman Ltd. 2) Alex Kerstitch. 3) Robert Robertson, 4) Frieder Sauer, Bruce Coleman Ltd. 5) Jeff Foott, Bruce Coleman Ltd. 6) Robert Robertson. 7) Jane Burton, Bruce Coleman Ltd. 538. 1) Spectrum Colour Library, 540, 1) E. Nagele, FPG, 541, 1) Fionnbar Callanan. 2) Australian News. 542. 1) Slide File, 543, 1) Eric Crichton/Bruce Coleman, 2) Britain on View, 544, 1) John Topham, The Image Works. 546. 1) E. G. Buehrie Collection, Zurich, Switzerland. 548. 1) Christiana Dittmann, Rainbow, 549. 4) National Currency Collection, Bank of Canada, 558, 1) Shostal, 2) London, published by John Murray, 1903 (Newberry Library). 560. 1) Howard Sochurek, Woodfin Camp, Inc. 561. 1) Peter Jackson, Bruce Coleman Ltd. 563. 2) Francisco Erize, Bruce Coleman Ltd.; E. R. Degginger. 564. 3) Shelly Grossman, Woodfin Camp, Inc. 4) R. C. Hermes, NAS, 5) Lanceau, Agence de Presse Jacana, 566, 1) E. R. Deoginger, 2) Oxford Scientific Films from Bruce Coleman Inc. 567. 1) Monklands District Council. 569. 1) Spectrum Colour Library. 570. 1) Sally Wayland, 571, 1) Lewis Mitchell, McKenzie-Harris. 2) Lewis Mitchell, McKenzie-Harris. 3) United Press Int. 572. 1) Robert Harding Picture Library, 573, 2) J. Exelby/Bruce Coleman. 575. 1) Eric Carle, Shostal. 576. 1) Schmied, ZEFA. 577. 1) Associated Press/Topham. 578. 1) Robert Harding Picture Library Ltd. 2) Granger Collection. 579. 1) Wales Tourist Board. 580. 1) George Hunter, 581, 1) Mansell, 582, 1) Hutchison Library. 583. 1) NASA. 584. 1) NASA. 2) NASA, 585, 1) NASA, 2) NASA, 586, 1) NASA. 2) NASA. 3) NASA. 4) NASA. 5) NASA, 587, 1) NASA, 2) California Institute of Technology. 3) California Institute of Technology. 594. 1) Illustration by Johann Hevelius from Selenographia, Gdansk, 1647, University of Chicago Library, 595. 1) NASA. 596. 1) NASA. 2) NASA. 596. 1) Christie's Colour Library. 599, 1) Wide World, 2) BBC Copyright, 600, 1) By kind permission of His Grace The Duke of Westminster DL (Photographic Records Ltd.). 2) Jim Brandenburg, Woodfin Camp, Inc. 3) Jim Brandenburg, Woodfin Camp, Inc. 601. 1) Robert Harding Picture Library, 602, 1) Spectrum Colour Library. 603. Czechoslovak Travel Bureau. 604. 1) Distillers Company, 2) Frick Collection, New York, 605. 1) Brown Bros. 806. 1) Ebony Magazine. 2) M. Decet. 607. 1) Oil painting (1870); National Gallery of Art, Washington, D.C., Chester Dale Collection. 609. 1) Paul Markow & Associates from FPG. 2) FPG. 611. 1) J. F. Gerard, Explorer, 2) B. Regent, Hutchison Library. 614. 1) Steve Vidler, Miller Services. 615. 1) J. Fine, AAA Photo. 617. 1) Victoria & Albert Museum/Bridgeman Art Library, 618, 1) Jitendra Arya. 619. 1) Brown Bros. 2) Smithsonian Institution. 621. 1) U.S. Army. 622. 2) Mexican Government Tourist Dept. 623, 1) Madeline Grimoldi. 4) Grant Heilman. 624. 1) Chip Hires, Gamma/Llaison. 626. 1) Spectrum Colour Library. 2) Spectrum Colour Library. 3) image Bank. 627. 1) Society for Cultural Relations with USSR. 2) Image Bank. 3) Telegraph Colour Library. 628. 1) ZEFA. 2) Jean S. Buldain, Berg & Associates. 629. 1) ZEFA. 2) Jean S. Buldain, Berg & Associates. 630. 1) Sovioto. 2) The burning of Moscow (1815) an aquatint by Thomas Sutherland, Manseil Collection. 631. 1) Shore, Gamma/Liaison. 637. 1) Runk/Schoenberg

from Grant Heilman. 2) Robert McKenzie, Tom Stack & Assoc. 3) Tom and Pat Leeson, Photo Researchers. 638, 1) Eric Hosking/D. P. Wilson, 639, 2) Edward S. Ross, 3) Bob Gossington, Bruce Coleman Inc. 4) Edward S. Ross. 640. 2) Lyna M. Stone, Bruce Coleman 3) Michael Lustbader, Photo Researchers. 4) E. R. Degginger. Bruce Coleman Inc. 641. 1) Cary Wolinsky, Stock, Boston. 2) Norman Owen Tomalin, Bruce Coleman Inc. 643. 1) P & S Ward/Natural Science. 2) Richard Revels/Natural Science. 3) John Mason/Ardea London. 4) Alan Weaving/Ardea London, 5) Jean Paul Ferrero/Ardea London, 644. 1) Mary Evans Picture Library, 2) Breck P. Kent, Animals Animals, 645, 1) Motherwell District Council. 650. 1) Rusty Rae, American Power Boat Association. 2) Forest Johnson, American Power Boat Association. 3) Rick Cline, American Power Boat Association. 4) Rusty Rae, American Power Boat Association. 651. 1) Jack Zehrt. 3) Nicky Heath, Woodfin Camp, Inc. 4) Steve Harbison, 652. 1) Harley-Davidson Motor Co., Inc. 2) Mercedes-Benz. 653. 1) Detail of a portrait by Joseph Kyle from the collection of Mrs. Alan Valentine (R. E. Condit). 654. 1) E. R. Degginger. 2) M. D. England, Ardea. 655. 1) Georg Gerster, Photo Researchers. 656. 1) Australian Picture Library. 657. 1) Giansanti, Sygma. 2) Dave Bartruff, FPG. 658. 1) Royal Geographical Society. 659. 1) Doug Scott. 2) E. Streichan. Shostal. 660. 1) Douglass Baglin. 662, 1) Shostal. 663. 1) Roger Werths, Woodfin Camp, Inc. 664. 1) B. Glander, Shostal. 665. 1) R. J. Rose, Miller Services. 671. 1) Maurice Hornocker, 2) Warren Garst, Van Cleve Photography. 672. 1) Keith Gunmar/Bruce Coleman, 673, 1) John Cheare/Mountain Camera. 2) Hulton Deutsch Collection. 675, 1) Cy La Tour. 2) Jane Burton/Bruce Coleman. 676, 1) J. M. Conrader, 2) Jane Burton, Photo Researchers. 3) Cordell Anderson, NAS. 677. 1) Breck P. Kent, Animals Animals. 679, 1) Jean Gaumy, Magnum. 2) Jean Gaumy, Magnum. 680. 1) Susan Meiselas, Magnum. 682. 1) State Information Service of Egypt. 683, 1) E. R. Degginger, 2) Allan Tannenbaum, Sygma. 684, 1) Michael Holford. 2) Robert Harding Picture Library. 685. 1) Spectrum Colour Library, 687. 1) S. M. Amin, Aramco World Magazine, 688, 1) Wide World. 689. 1) New Zealand Embassy. 2) Eric & David Hosking, 690, 1) Garry D. McMichael, Photo Researchers. 2) Grant Heilman, 691, 2) Ray Richardson, Animals Animals, 2) J. Wenk, Black Star. 693. 1) Gerard Smith, Monkmeyer. 2) Nancy Hays, Monkmeyer. 699. 1) University Museum, University of Pennsylvania. 2) Field Museum of Natural History, Chicago. 3) Brian Shuel. 4) Field Museum of Natural History, Chicago, 701, 1) Spectrum Colour Library. 2) David Falconer, Frazier Photolibrary. 703. 2) Bord Fáilte Éireann. 704. 1) Fratelli Fabbri Éditori, Milan, Italy. 2) 1976 Cityarts Workshop, Inc. 706. 1) MAS. 707. 1) U.S. Army. 708. 1) Photographic Library of Australia. 709. 2) Fritz Prenzel. 3) Fritz Prenzel. 711. 2) Edward R. Murrow Foundation, 712, 1) Fritz Prenzel. 2) Robert

Frerck, 717. 2) The Metropolitan Museum of Art, New York, Rogers Fund, 1932. 718. 1) J. M. Mejuto, FPG. 2) Sacramento History Museum. 719. 1) Odyssey Productions. 720. 1) Museum of Childhood. 723. 1) S. Rannels, Grant Heilman. 2) Joy Spurr. 4) Kit Scates. 725. 2) Steve Smith, Wheeler Pictures. 3) Photo Reserve from Click. 726. 1) Milt and Joan Mann, 2) Owen Franken, Stock, Boston, 3) Milt and Joan Mann. 4) Photo Reserve from Click. 734. 3) De Wys, Inc. 736. 1) Don Smetzer, Click/Chicago. 2) Robert Frerck. 3) John Running, Stock, Boston. 737. 1) Hulton Deutsch Collection. 738. 1) Paul Robert Perry. 2) Billy Rose Theater Collection, New York Public Library. 739, 1) Brown Brothers, 2) Bettmann Archive. 740. 1) Martha Swope. 741, 1) George H. Harrison from Grant Heilman, 742, 2) Leonard Lee Rue II Bruce Coleman Ltd., 743, 1) Shostal, 745, 1) Breck P. Kent, Animals Animals, 2) United Press Int. 752. 1) Walter Sanders, Life Magazine Time Inc. 753. 1) Oil painting on canvas by N. A. Abilgaard; Royal Museum of Fine Arts, Copenhagen, Denmark. 755. 1) Museum Excavations and Rogers Fund, 1930. 757. 1) Ella Gallup Sumner and Mary Catlin Sumner Collection. **758.** 2) Pierce Fund. **759.** 1) Raymond V. Schoder.

N-O

2. 1) UPI/Bettmann Newsphotos. 4. 1) Ken Powell. 6. 2) Camera Press. 7. 1) Heinemann. 2) ZEFA. 3) STB/Still Moving. 8. 1) Queensland Art Gallery. 12. 1) Richard Harrington, FPG. 13.2) M. Courtney-Clarke. Photo Researchers, 15, 1) Mike Yamashita. Woodfin Camp, Inc. 17. 1) G. Barone from Madeline Grimoldi. 18. 1) National Gallery of Art, Washington, D.C. Samuel H. Kress Collection. 19. 1) Giraudon. 23, 1) Phedon Shostal. 26. 1) Architectural Salou, Association. 2) Kay Bell. 27, 1) J. Allan Cash Photolibrary. 29. 2) Walter Knirr. 30. 1) NASA. 33. 1) G. R. Roberts. 34. 1) Royal Victoria Hospital, Belfast. 37. 1) M.P. Kahl/Bruce Coleman. 39. 1) Gerald Cubitt/Bruce Coleman, 40, 1) View Finder, 42, 1) Spectrum Colour Library. 43. 1) Francisco Erize/Bruce Coleman. 47. 1) Robert Harding Picture Library. 50, 2) Compix. 51, 1) W. E. Townsend, Jr., Photo Researchers. 52. 1) U.S. Navy. 56, 1) Susan Middleton, California Academy of Sciences, 65. 1) National Optical Astronomy Observatories. 68. 3) Yahaya ismail. 70.1) Popperfoto. 71, 1) Brown Bros. 74. 1) David R. Frazier, 76. 1) M. Philip Kahl, Jr., Bruce Coleman Inc. 2) Malcolm Kirk from Peter Arnold. 80. 1) Guglielmo Mairani from Grazia Neri. 86. 1) Marilyn Gartman Agency. 2) B. A. Argentine, Shostal. 4) Artstreet, 87, 2) Sporting Pictures. 88. 1) KLM Royal Dutch Airlines. 89. 3) Max Koot, Consulate General of the Netherlands, 91. 1) Larry D. Doell, The Stock Market. 2) Ronny Jacques, Photo Researchers. 3) Janeart Ltd, from The Image Bank, 94, 1) Ralph Turner, Carl Östman. 3) Russ Kinne, PhotoResearchers. 5) Fred Ward, Black Star. 95. 1) Ray Halin. 2) Farrell Grehan, Photo Researchers. 97. 1) [.

Wimnell, Carl Östman. 98, 1) Granger Collection. 100. 1) Wide World, 101, 1) N. A. Callow, NHPA. 106. 2) Pace Gallery, 107, 2) Photographic Library of Australia. 108, 1) Shostal. 2) Photographic Library of Australia. 109. 2) Bettmann Archive. 111. 1) Luis Villota, Stock Market. 113. 1) Granger Collection. 115. 1) Giorgio Ricatto, Shostal. 2) Joe Viesti. 117. 1) David Overcash, Bruce Coleman, Inc. 2) J. T. Miller, The Stock Market. 3) Cameramann International, Ltd. from Marilyn Gartman, 118, 1) James Blank, West Stock, 119. 2) Photographic Library of Australia. 121, 1) H. William Tetlow, Pictorial Parade, 2) Dan McCoy, Black Star. 122, 1) Photographic Library of Australia, 123, 3) Photographic Library of Australia. 4) Lance Nelson, 127, 1) Douglass Baglin. 2) Douglass Baglin. 128. 1) Douglass Baglin, 3) Photographic Library of Australia. 4) N.S.W. Govt. Tourist Bureau. 130. 2) Jeff Carter, 132. 1) Douglass Baglin. 2) Douglass Baglin, 133, 1) Australian Information Service. 134, 1) Mitchell Library. 2) Dixson Galleries. 135, 1) Richard Desgrand. 136. 1) SCALA/Art Resource. 139. 2) San Francisco Visitors Bureau. 140. 1) Augusts Upitis, Shostal, 142, 1) Laurence R. Lowry, 149, 1) Karl Kummels, Shostal, 153, 2) Ministry of Works and Development. 154. 1) Harrison Forman, 155. 1) Brian Brake, Rapho Guillumette. 2) E. W. Young, Tom Stack & Associates. 158. 1) Bill Noel Kleeman, Tom Stack & Associates, 163, 1) David Moore, Black Star. 164, 1) Alexander Tumbull Library. 2) National Library of Australia, 3) Photobank. 165. 1) Alexander Turnbull Library. 2) Alexander Turnbull Library. 166. 1) Auckland War Memorial Museum. 2) National Library of Australia. 167. 1) National Library of Australia. 169. 1) Alexander Turnbull Library, 170. 1) Alexander Turnbull Library, 171, 1) Alexander Tumbull Library. 2) Hocken Library. 3) Alexander Turnbull Library, 173, 1) Alexander Turnbull Library. 175. 1) New Jersey Newsphotos, 176, 1) Douglass Baglin, 178, 1) E. Otto, Miller Services. 179. 1) Alain Dejean, Sygma. 187. 1) Dr. Frieder Sauer/Bruce Coleman. 192. 1) David Mangurian, 193. 1) Shepard Sherbell, SABA. 194. 1) Laurie Lewis. 196. 1) Bill Gentile, Sipa. 197. 1) Wide World. 199. 1) Brown Bros. 201. 1) Messerschmidt, FPG. 204. 1) Image Bank. 2) Naud, AAA Photo. 205. 1) Robert Harding Picture Library. 206. 1) Jerry Frank. D.P.I. 2) Bruno Barbey, Magnum. 209. 1) Bruno Barbey, Magnum. 3) George Bookless, TerraPhotos, 210, 1) Bruno Barbey, Magnum. 212. 1) Tomas D. W. Friedmann, D.P.I. 213. 1) Bruno Barbey, Magnum. 214. 1) Wide World. 215. 2) Jose Luis G. Grande, Photo Researchers. 216. 1) Granger Collection. 2) Brown Bros. 217. 1) E. R. Degginger. 2) Giuseppe Mazza. 3) E. R. Degginger. 4) Bruce Coleman Ltd. 218. 2) Bettmann Archive. 219. 1) Nancy Palmer Photo Agency, Inc. 2) C. Pierre, De Wys, Inc. 3) Marc & Evelyne Bernheim, Woodfin Camp, Inc. 225. 1, Amer, Swedish News Exch., Inc. 227. 2) Bettmann Archive. 228. 1) Black Star. 230. 1) Bettmann Archive, 232, 1) United Press Int. 2) United Press Int. 234, 1) Bettmann Archive. 3)

Bettmann Archive. 2) Hull House Association. 4) United Press Int. 235. 1) Karsh, Ottawa, from Pix. 2) Wide World. 236. 1) British Information Services. 237. 1) Michio Noguchi, Isamu Noguchi Garden Museum. 240. 1) Paul Tavener. 242. 1) Photographic Library of Australia. 243.1) Reuters/Bettmann. 3) Ace Williams, Shostal. 244. 1) SCALA/Art Resource. 246. 1) Eric Carle, Bruce Coleman inc. 2) Lee Balterman from Marilyn Gartman. 3) Brian Vikander, West Light. 252. 1) Nicholas Devore III, Bruce Coleman Inc. 2) Roy Morsch, Bruce Coleman Inc. 256. 2) Craig Aurness, Woodfin Camp, Inc. 259. 1) North Atlantic Council. 260. 1) Murray and Associates, Inc. 262. 1) Dotte Larsen, Bruce Coleman Inc. 1) Spectrum Colour Library. 263. 2) Kim Taylor, Bruce Coleman Ltd. 269. 1) Peter L. Gould. 2) Picturepoint from Publix. 274. 1) Paul McCaffey, courtesy of Northern Ireland Industrial Development Board. 2) Chris Hill, courtesy of Northern Ireland Industrial Development Board. 277. 2) Photographic Library of Australia. Photographic Library of Australia. 279. 3) P.L.A. 281. 1) Photographic Library of Australia. 3) Adapted from Regional Landscapes of Australia 1971 Nancy and Andrew Learmonth, courtesy Angus and Robertson Pty. Ltd. 283. 2) Alan Foley. 283. 1) Jeff Carter. 285. 1) Nabalco. 2) Jeff Carter. 289. 1) Bancroft Library, University of California, Berkeley. 3) Bancroft Library, University of California, Berkeley. 290. 1) Peabody Museum of Salem, Mass. 291. 1) N. Beeckman, Mittet Foto. 292. 1) Superstock. 2) A. Thelin, Mittet Foto. 3) H. E. Harris & Co. 295. 1) Dallas and John Heaton, The Stock Shop. 2) Greve, Scan-Foto. 3) SCALA/Art Resource. 4) Mittet Foto. 296. 1) Ernst A. Weber, Photo Researchers. 299. 1) Mittet Foto. 2) NTB Foto. 300. 1) J. Brun, Mittet Foto. 301. 1) O. Vaering. 305. 1) G. Marche, FPG. 308. 1) Images, Newark. 2) City of Nottingham Public Relations Office. 310. 1) Sherman Hines, Masterfile. 318. 1) Idaho Engineering Laboratory. Combustion Engineering, Inc. 319. 1) Source: U.S. Energy Information Administration. 323. 1) Westinghouse Electric Corporation. 324. 1) General Electric Company. 2) General Electric Company. 326. 1) Westinghouse Electric Corporation. 327. 1) Central Electricity Generating Board. 328. 2) Idaho National Engineering Laboratory. 331. 1) Plasma Physics Laboratory, Princeton University. 336. 1) Photri. 2) U.S. Army. 3) Photri. 337. 2) UPI, Bettmann Newsphoto. 4) Atomic Energy C. 2) Andrew 342. Commission. Henley/N.P.I.A.W. 352. 1) Martha Swope. 353. 1) Rand McNally. 354. 1) Ellis Herwig from Marilyn Gartman. 355. 1) Camilla Jessell. 2) G. R. Roberts. 361. 1) George McCarthy/Bruce Coleman. 3) Bruce Coleman. 362, 1) Doris Pinney, Photo Library. 365, 2) National Diary Council. 366. 1) R. Benzi, Custom Medical. 368. 1) Joseph Sterling, Tony Stone. 2) World Wide from Click/Chicago. 369. 1) Bill Campbell, Sygma. 370. 1) Tony Stone Photolibrary, London. 372. 1) Adrian Davies/Bruce Coleman. 2) Michael

Dirr. University of Georgia. 374. 1) F. Sauer/Bruce Coleman. 2) Bettmann Archive. 375. 1) S. Fiore, Shostal. 2) Peter Menzel, Stock, Boston. 376. 2) Leonard Lee Rue III, Bruce Coleman Ltd. 377, 1) Deere & Co. 2) Deere & Co. 378. 1) I.G.E.R. 379. 1) Bavaria Verlag. 380. 1) ZEFA. 381. 1) Kitt Peak National Observatory. 383. 1) NASA/ESA. 2) Claire Rydell. 384. 1) American Occupational Therapy Association, Inc. 385. 1) American Occupational Therapy Association, Inc. 386. 1) Harvey Lloyd, The Stock Market. 2) Alan Gurnay, The Stock Market. 3) Barry E. Parker, Bruce Coleman, Inc. 390. 1) Terry Domico, Earth Images. 399. 1) Woods Hole Oceanographic Institution. 2) O. Brown, R. Evans, and M. Carle, Rosentiel School of Marine and Atmospheric Science, University of Miami. 400. 2) Scripps Institution of Oceanography. 401. 1) Anchorage Daily News from Gamma/Liaison. 2) Donna Rona, Bruce Coleman, Inc. 403. 1) Ocean Drilling Program, Texas A & M University. 404. 1) Z. Leszczynski, Animals Animals. 405. 1) Douglass Baglin. 2) The National Library of Australia. 409. 1) Fred Bavendam from Peter Amold. 2) Neil McDaniel. 3) Waina Cheng, Bruce Coleman, Inc. 411. 1) Granger Collection. 415. 1) Fionnbar Callanan. 416. 2) Lafayette Studios. 418. 1) Clay F. Hillstrom Jr. 420. 1) Bertram G. Murray, Jr., Animals Animals. 421. 1) Kenneth W. Fink, Ardea. 422. 1) Photo by Malcolm Varon. 423. 1) David Moore, Black Star. 2) Pan-Asia Newspaper Alliance. 425. 1) Oklahoma State University. 429. 3) Giuseppe Mazza. 430. 1) United Press Int. 432. 1) Elisa Leonelli, Bruce Coleman Inc. 449. 1) Robert Azzi, Woodfin Camp, Inc. 2) David Hume Kennerly, Gamma/Liaison. 451. 1) Kenneth W. Fink, Bruce Coleman Inc. 452. 1) Random House. 453. 2) Eric Crichton/Bruce Coleman. 458. 1) Gemological Institute of America. 2) Photographic Library of Australia. 456 1) Scene from a production by the Royal Opera, Covent Garden, London; Reg Wilson. 463. 1) The Newberry Library, Chicago. 465. 1) Festspiele Bayreuth, Germany. 2) Wilhelm Rauh, Festspiele Bayreuth, Germany. 466. 1) Scene from a production by the New York City Opera, with Claramae Turner, Beth Bergman. 467. 1) Scene from a production by the New York City Opera; Beth Bergman. 468. 2) Scene from a production of the Bolshoi Theatre Company, Moscow; Novosti Press Agency, Moscow. 469. 1) Scene from a production by the New York City Opera; Beth Bergman. 470. 1) Scene from a production by the New York City Opera; Fred Fehl. 471. 1) Frank Dunand, the Metropolitan Opera Guild. 2) Scene from a production by the New York City Opera; Fred Fehl. 472, 1) Scene from a production by the New York City Opera; Fred Fehl. 473, 1) Scene from a production by the Metropolitan Opera Association, with Birgit Nilsson; Frank Dunand, the Metropolitan Opera Guild. 474. 1) Scene from a production by the Santa Fe (N. Mex.) Opera, with George Shirley and Maralin Niska, Santa Fe Opera. 477. 2) E. R. Degginger. 478. 2) United Press Int. 480. 1) Art Directors Photo

Library. 482. 1) U.S. Department of Agriculture. 2) Bruce Coleman Inc., 483, 1) Walter Knirr. 2) Walter Knirr. 484. 1) M. P. Price, Bruce Coleman Ltd. 486. 1) L. L. T. Rhodes, Click/Chicago. 2) Pamella McReynolds. 487. 2) The Philadelphia Orchestra, Riccardo Muti, Music Director. 2) Claire Rydell. 489. 1) Thomas D. W. Friedman, Photo Researchers. 490. 1) Jim Annan. 2) E. S. Ross. 3) Harold Hungerford. 4) C. B. Sharp, Van Cleve Photography. 5) Loren McIntyre, Woodfin Camp, Inc. 6) Lynn M. Stone, NAS. 7) M. P. L. Fogden, Bruce Coleman Inc. 8) Bill Noel Kleeman, Tom Stack & Associates. 491. 1) Culver. 494. 1) Kurt Scholz, Shostal. 2) Timothy White, Shostal. 497. 1) Todays Runner Magazine. 498. 1) M. D. England/Ardea, London. 499. 1) Robert Harding Picture Library. 500. 1) Spectrum Colour Library. 2) Robert Harding Picture Library, 501, 1) Spectrum Colour Library, 502. 1) Douglas Dickins. 504. 1) Charles Tait. 505. 1) Detail of a fresco (1934); courtesy of the Trustees of Dartmouth College. 506. 1) United Press Int. 2) Jack McKigney, Picture Group. 508. 2) World Photo Service from Madeline Grimaldi. 509. 1) Paul Centeneo, Shard. 510. 1) SCALA/Art Resource. 2) Cuiver. 511. 1) Adeline Haaga, Tom Stack & Assoc. 2) Dale Brown, DPI. 513. 1) The Stock Shop. 2) Ostende Tourist Board. 514. 1) E. R. Degginger. 515. 1) Giuseppe Mazza. 2) Anthony Bannister, NHPA. 517. 1) Malak from Shostal. 2) Malak from Shostal. 518. 1) Hans Reinhard, Bruce Coleman Ltd. 2) Tom McHugh, Photo Researchers, 519, 1) Diane Pearce. 522. 1) Artstreet. 523. 2) San Francisco Academy of Comic Art. 524. 2) Ray Manley, Shostal. 525. 3) G. Ziesler/Bruce Coleman. 527. 1) Brown Bros. 2) Trevor Humphries, Camera Press. 528. 1) United Press Int. 2) John Markham. 529. 1) Leonard Lee Rue III, Monkmeyer. 2) Walker, APF. 3) Russ Kinne, Photo Researchers. 530. 1 Frithfoto/Bruce Coleman. 2) Laura Riley. 3) Frank and John Craighead. 531. 1) E. R. Degginger. 2) Grant Heilman. 532, 1) David R. Frazier, 534, 1) Simply Creative, 535, 3) Alice Dole. 539. 1) Sakata Pearl Co. (U.S.A.), Ltd. 2) Joy Spurr, Bruce Coleman Inc. 3) U.S. Dept. of Interior. 541. 1) Don Gray, f/Stop Pictures, Inc. 542. 1) Chicago Daily News.

P

3. 1) David Moore, Black Star. 4. 1) Jack Fields, Photo Researchers. 2) Jack Fields Photo Researchers. 3) David Moore, Black Star. 6. 1) Emil Muench from Carl Östman. 7 1) London Daily Telegraph from Woodfii Camp, Inc. 2) Jack Fields, Phote Researchers. 8. 1) David Moore, Black Stal 11. 1) Camera Hawaii. 2) Robert Goodman Black Star. 12. 1) Jack Fields, Phot Researchers. 18. 1) Photographic Library of Australia. 19. 1) Brown Bros. 20. 1) Delt Willis, Bruce Coleman Inc. 21. 1) Yahay Ismail. 22. 1) Brown Bros.; Bettmann Archive 23. 1) PPG Industries. 25. 1) Glidde Coatings & Resins Division, SCI Corporation. 27. 1) Esther Henderson, Raph

Guillumette, 2) John Shaw/Bruce Coleman, 40. 2) SCALA. 47. 2) SCALA. 3) SCALA. 53. 1) SCALA, 54, 1) SCALA, 55, 1) SCALA, 2) SCALA, 56, 1) SCALA, 2) SCALA, 59, 1) SCALA, 3) SCALA, 60, 1) SCALA, 62, 1) SCALA, 86, 1) Collection of Herbert and Nannette Rothschild. 91. 1) Emil Muench from Carl Östman. 2) Prato/Bruce Coleman. 92, 1) Takeshi Takahara, Photo Researchers. 93. 1) J. Alex Langley, DP. 2) Emil Muench. 95. 1) Emil Muench from Carl Östman. 2) Kay Muldoon, Meyers Photo-Art. 96. 2) J. Alex Langley, DPI. 97. 1) Fred Ward, Black Star. 99. 1) Wide World, 101, 2) Ed Robinson, Tom Stack & Assoc. 106. 1) Adam Woolfitt from Susan Griggs, 2) G. R. Roberts, 107, 1) E. R. Degginger. 2) Lois Cox. 3) E. R. Degginger. 110. 1) California Institute of Technology. 111. 1) Art Resource, 114, 1) Chris Harris, Liaison. 115, 3) Michele and Tom Grimm, 117, 1) Chris Harris, Llaison. 2) Yoram Kahana from the Marilyn Gartman Agency. 3) John J. Lopinot, Black Star. 119. 1) Yoram Kahana, Peter Amold, Inc. 121, 1) Pictorial Parade, 123, 2) John Lopinot, Black Star. 127. 1) Rex Features. 128. 2) Flip Schulke, Black Star. 3) Tierbilder Okapia. 129, 1) United Press Int. 130. 1) Clem Haagner, Ardea, London. 2) Clern Haagner, Ardea, London. 132. 1) Fox Photos. 2) Fox Photos. 136. 1) Granger Collection. 2) Institute of Paper Chemistry. Appleton, Wis. 137. 1) Illustration from How Paper is Made, Reproduced by permission of Threshold Books Ltd. 2) Mead Paper Co. 138. 1) Thistle Y. Harris. 139, 2) Mary Eleanor Browning, Photo Researchers, 140, 1) Photographic Library of Australia, 141, 3) Rocky Roe. 144, 1) Douglass Baglin, 145, 1) Photographic Library of Australia. 146. 1) Douglass Baglin. 2) Douglass Baglin. 147, 1) Photographic Library of Australia. 148. 1) Photographic Library of Australia. 149. 1) Photographic Library of Australia. 150. 1) Douglass Baglin. 2) Douglass Baglin. 151. 1) Adapted from Regional Landscapes of Australia. 1971 Nancy and Andrew Learmonth, Courtesy Angus and Robertson Pty. Ltd. 152. 1) Photographic Library of Australia. 2) Douglass Baglin. 3) Douglass Baglin. 154. 1) Douglass Baglin. 2) Douglass Baglin. 155. 1) C.R.A. 156. 1) Australia News and Information Bureau. 2) Government of Papua New Guinea, 158, 1) M. P. Kahl, Photo Researchers, 160, 1) U.S. National Air and Space Museum. 161. 1) Luis Villota, The Stock Market. 162. 1) Luis Villota, The Stock Market. 164. 1) James Nachtwey, Black Star. 165. 1) Luis Villota, The Stock Market. 166. 1) James Nachtwey, Black Star. 170. 1) Manfred Kage from Peter Arnold. 2) David R. Frazier. 171. 1) Arthur M. Siegelman. 2) Arthur M. Siegelman. 172. 1) Cath Ellis, University of Hull from Science Photo Library. 2) Centers for Disease Control. 3) Centers for Disease Control. 4) Stephen J. Krasemann, Bruce Coleman Ltd. 5) Centers for Disease Control. 6) Centers for Disease Control. 7) Arthur M. Siegelman. 8) Arthur M. Siegelman. 174. 1) Otto Done, Shostal. 175. 1) Gerard Halary, Shostal. 176. 1) Tony Stone Photolibrary, London. 3) Tony Stone Photolibrary, London.

Spectrum Colour Library, 177, 2) Spectrum Colour Library. 4) Tony Stone Photolibrary. London, 178, 1) Owen Franken, Stock, Boston. 2) P. S. Pavlovsky, Photo Researchers, 180, 1) Owen Franken, Stock, Boston, 2) Milt and Joan Mann, 3) Milt and Joan Mann. 181. 1) Milt and Joan Mann. 2) Milt and Joan Mann. 182, 1) Susan McCartney, Photo Researchers. 2) Owen Franken, Stock, Boston. 183, 1) Robert Clark, Photo Researchers. 185. 1) Spectrum Colour Library. 2) Brett Froomer/Image Bank. 186. 1) Image Bank. 2) Korean Information Office. 187. 1) ZEFA. 2) Viking Press, Inc. 188, 1) National Library of Australia. 189. 1) United Press Int. 190, 1) House of Commons Public Information Office. 191. 1) Pitkin Pictorials Limited. 193. 1) Rex Features. 197. 1) G. R. Roberts. 198, 1) Brown Bros. 199, 1) Richard Desgrand. 2) Gartman Agency. 3) Keystone. 202. 2) Derek Bayes. 204. 1) Warren Churg, Art Resource. 210, 1) Black Hills Passion Play. 2) Hugh Spencer, NAS. 211. 1) Paul Robert Perry. 212. 1) Historical Picture Service. 213. 1) Antony Blake Photo Library/Roux Brothers. 2) Robert Harding Picture Library. 214. 1) Australian News. 215. 1) Spectrum Colour Library. 217. 1) Imperial War Museum. 218. 1) U.S. Army. 221. 1) Forrest Anderson, Gamma Liaison. 222. 1) Bettmann Archive. 223, 1) Focus on Sports. 227. 2) Robert Barclay, Grant Heilman. 228. P. Berger, NAS. 231. 1) Grant Heilman. 2) E. R. Degginger, 233, 1) Jack Fields, Photo Researchers. 234. 1) Robert A. Isaacs, Photo Researchers. 2) Frederick Aver. Photo Researchers. 3) Paulo Koch. Photo Researchers. 235. 1) Kurt Scholz, Shostal. 236. 1) C. A. & S. M. L. Strutt. 2) Shuel. 3) Topham. 4) Topham. 237. 1) University College. 238. 1) Bettmann Archive. 2) Dan Budnik, Woodfin Camp, Inc. 239, 1) Runk/Schoenberger from Grant Heilman. 2) William H. Allen, Jr. 240. 1) Bob and Clara Calhoun, Bruce Coleman Ltd. 241. 1) National Library of Australia. 2) E. R. Degginger. 242. 1) Chicago Historical Society. 2) The Mitchell Library. 243. 1) Britain on View. 2) Universal Pictorial Press. 245. 1) SCALA/Art Resource. 246. 1) Eric Carle, Shostal. 247. 1) David Goulston/Bruce Coleman. 248. 1) Udo Hirsch/Bruce Coleman. 2) Frieder Sauer/Bruce Coleman. 249. 1) Jerry Cooke, Photo Researchers. 253. 1) Douglas Dickins. 2) Douglas Dickins. 257. 2) William R. Curtsinger from Rapho Guillumette. 258. 1) Guy Mannering, Bruce Coleman Inc. 2) Michael C. T. Smith, NAS. 3) Morton Beebe, DPI. 259. 1) Pfizer Inc. 2) John Walsh, Photo Library from Science Photo Researchers. 3) Pfizer Inc. 4) David R. Frazier. 260. 2) Historical Society of Pennsylvania, Philadelphia. 261. 1) Archives of 76, Bay Village, Ohio J. L. G. Ferris. 262. 1) U.K. Atomic Energy Authority. 2) Spectrum Colour Library. 263. 1) Walter Choroszewski, The Stock Market. 267. 1) Department of Defense. 269.3) Virginia P. Weinland, Photo Researchers. 270. 1) John Colwell from Grant Heilman. 2) Grant Heilman. 273. 1) Dinamaika/Yahaya 2) Ismail.

Dinamaika/Yahaya Ismail. 277, 1) William M. Smith. 278. 1) William M. Smith. 279, 1) Steiner/Camera Press. 280, 1) Mosche Milner, Sygma. 282. 1) Mansell Collection. 283. 1) Patrick Clement/Bruce Coleman, 285. 1) Dinamaika/Yahaya Ismail. 288. 1) Wide World. 2) Larson, Black Star. 289. 2) U.S. Navy. 290. 1) Chicago Historical Society, 292. 1) Robert Harding Picture Library. 293. 1) Granger Collection, 2) Granger Collection, 4) Robert Harding Picture Library. 295, 1) Granger Collection. 2) SEF/Art Resource. 297. 1) Sygma. 2) Sipa Press. 3) J. Langevin. Sygma, 301, 2) SCALA/Art Resource, 303, 1) Robert Frenck, 306, 1) Art Gallery of Western Australia, 307, 1) Loren McIntyre from Woodfin Camp, Inc. 308. 1) Claus Meyer, Black Star. 310. 1) Walter R. Aguiar. 311. 1) Jacques Jangoux, 2) Jacques Jangoux, 3) Victor Englebert, Black Star. 312. 1) Jacques Jangoux, 2) Robert Bunge, Black Star, 3) Jane Vincent, Black Star. 314, 1) Jacques Jangoux. 2) Jacques Jangoux. 315. 1) David Brill. 2) Dana Middleton, 320, 1) Walter Chandoha, 2) Jim Collins, 321, 1) Walter Chandoha, 2) Jim Collins, 322, 1) Jim Collins, 323. 1) Pix. 325. 1) Bronze statue (1912) by Sir George Frampton (Robert Harding Picture Library). 326. 1) The Henry Francis du Pont Winterthur Museum. 336. 1) Robert H. Glaze, Artstreet. 2) Oilways, Exxon Company, U.S.A. 340. 1) Arabian American Oil Company. 2) Alan Orling, Black Star. 3) Gamma from Liaison. 4) Steve Northup, Camera 5. 344. 1) Dan Connolly, Sygma. 2) Continental Oil Company, American Petroleum Institute. 352. 1) American Petroleum Institute. 357. 2) National Museum of Victoria, 358, 1) Pharaoh Hound Club of America. 360. 1) Jane Burton, Bruce Coleman Ltd. 2) Kenneth W. Fink, Photo Researchers. 3) Anthony Mercieca, Photo Researchers. 363. 1) Leif Skoogfors from Woodfin Camp, Inc. 364. 1) Harvey Lloyd, Black Star. 365. 1) Granger Collection. 2) Granger Collection. 366. 1) Collection of the Dutchess of Alba. Madrid, Spain (SCALA/Art Resource). 2) Granger Collection. 367. 1) Ayer Collection, Newberry Library. 2) British Information Services. 368. 1) Sonia Halliday Photographs. 2) Ronald Grant Archive. 3) Sonia Halliday Photographs. 369. 1) Jules Bucher, Photo Researchers, Inc. 2) Philip Jones Griffiths, Magnum. 370. 2) Nik Wheeler/Black Star. 371. 1) Hutchison Library. 2) Image Bank. 3) Hutchison Library. 372. 1) Philippines Tourist Board. 373. 1) J. Allan Cash Photolibrary. 2) Cameramann International, Ltd. 374. 1) Artstreet. 375. 1) Philippines Tourist Board. 376. 1) Robert Frerck. 2) Philippines Tourist Board. 377. 1) J. Allan Cash Photolibrary. 380. 2) Robert Frerck. 382. 1) J. Allan Cash Photolibrary. 2) Bruno Zehnder from Peter Amold. 383. 1) Philippines Tourist Board. 384. 1) Philippines Tourist Board. 385. 1) J. Allan Cash Photolibrary. 386. 1) Philippines Tourist Board. 2) Philippines Tourist Board. 388. 1) Philippines Tourist Board. 2) Brian J. Coates, Bruce Coleman Inc. 389. 1) Tom McHugh, Photo Researchers Inc. 390. 1) Philippines Tourist Board. 391. 1) Philippines Tourist

Board, 2) Philippines Tourist Board, 392, 1) Philippines Tourist Board, 2) Philippines Tourist Board. 393. 1) Philippines Tourist Board. 2) Philippines Tourist Board. 3) Philippines Tourist Board. 394. 1) Philippines Tourist Board. 2) Philippines Tourist Board. 395. 1) Philippines Tourist Board. 397. 1) Philippines Tourist Board. 398. 1) Philippines Tourist Board, 400, 1) Philippines Tourist Board, 402, 1) Philippines Tourist Board, 3) Neveu/Frank Spooner Pictures/Gamma. 403. 1) Ancient Art & Architecture Collection. 404. 1) Spectrum Colour Library. 405, 1) J. Allan Cash Photolibrary. 406. 1) Philippines Tourist Board. 2) J. Allan Cash Photolibrary. 407. 1) Philippines Tourist Board. 408. 1) Granger Collection. 409. 1) Philippines Tourist Board. 2) Culver Pictures. 410. 1) Topham Picture Source, 411, 1) Imperial War Museum, 413, 1) The Hutchison Library, 415. 1) Philippines Tourist Board. 416. 1) National Library of Australia, 417. 1) The Mitchell Library, 419. 1) A-Z Botanical Collections. 432. 1) Zenith Radio Corporation. 439. 1) Markhurd Corporation. 2) Markhurd Corporation. 440. 1) Jet Propulsion Laboratory, 2) American Telephone & Telegraph Co. 3) Lennart Nilsson from Behold Man, 1974 Little, Brown and Co. 4) Focus on Sports. 441. 1) Federal Bureau of Investigation, 2) Bob & Clara Calhoun, Bruce Coleman Inc. 3) Tom Caravaglia. 4) Michael Dice. 445. 1) Steve Hale. 2) Steve Hale. 3) Steve Hale. 461. 1) The Gemsheim Collection, University of Texas at Austin. 2) Louis Daguerre, Société Française de Photographie, Paris. 462, 1) The Library of Congress, Washington, D.C. 463. 1) George Eastman House, Rochester, N.Y. 2) The Metropolitan Museum of Art, New York, Ioan from Georgia O'Keeffe. 464. 1) Scene in Kyoto, Japan (1965); Henri Cartier-Bresson. Magnum. 2) Migrant Girl (1936); The Library of Congress, Washington, D.C. 465. 1) Chicago (1950); Harry Callahan, Light Gallery. 467. 1) David Parker/Science Photo Library. 469. 1) Jack K. Clark, Comstock. 2) Shostal. 470. 1) Ellis Herwig from Marilyn Gartman. 2) Dick Wade, Berg & Associates. 471. 1) Annie Griffiths/West Light. 2) Michael Kevin Daly The Stock Market, 3) Ellis Herwig, Stock, Boston. 472. 1) Boeing Aerospace Company. 2) Fermilab. 3) Sandia National Laboratories. 476. 1) Granger Collection. 2) Culver. 3) Granger Collection. 477. 1) Granger Col lection. 2) UPI Bettmann Newsphotos. 3) Brown Brothers, 478. 1) UPI/Bettmann Newsphotos. 2) California Institute of Technology. 3) Brookhaven National Laboratory. 479. 1) California Institute of Technology. 2) Brookhaven National Laboratory. 3) Ralph Crane/Camera Press. 481. 1) Simon Fraser. Hexham General Hospital/Science Photo Library, 482, 1) Bettmann Archive, 484, 2) The Metropolitan Museum of Art, New York City, The Crosby Brown Collection of Musical Instruments, 1889. 485. 1) Karsh, Ottawa. 2) MAS. 486. 1) Wide World. 487. 2) Chicago Historical Society. 3) Bettmann Archive. 488. 1) Mary Evans Picture Library. 489. 1) Atmosphere Postcards. 491. 1) Wendy Neefus, Animals Animals. 2) Henry Weaver,

Lensman. 492. 1) American Landrace Association, 4) Hampshire Swine Registry, 5) Emil Fray. 494. 1) Phil Degginger, Bruce Coleman Inc. 495. 1) G. Ronald Austing. 496. 1) Ken Brate, Photo Researchers, 2) G. Ronald Austing. 3) Jack Fields, Photo Researchers. 4) George McCarthy/Bruce Coleman. 5) G. Ronald Austing. 497. 1) Ian J. Platt. 498. 1) C. Summers, Torn Stack & Assoc. 2) Han Reinhard, Bruce Coleman Inc. 3) SCALA/Art Resource. 499. 1) Pilgrim Society, Plymouth, Mass. 500. 1) Robert L. Stuart Collection. 501. 1) Bettmann Archive. 503. 1) SCALA/Art Resource. 3) Lee Boltin. 504. 1) Horticultural Photography. 506. 2) Bruce Coleman Inc. 509, 1) Mitchell Library. 510. 1) Douglass Baglin. 2) National Gallery of Victoria. 511. 1) National Gallery of Victoria. 512. 1) National Gallery of Victoria. 2) National Gallery of Victoria. 513. 1) Douglass Baglin. 514. 1) David R. Frazier. 2) D. C. Lowe, FPG. 516. 1) Jen and Des Bartlett, Bruce Coleman Inc. 2) Joel W. Rogers, Earth Images. 518. 1) George McCarthy/Bruce Coleman. 519. 1) Plate VIII from the Prisons series; Calcografia dello Stato, Rome (Alinari/Art Resource). **522.** 1) Royal Astronomical Society Library. **524.** 1) Runk/Schoenberger from Grant Heilman. 525. 1) Ronald W. Weir. 526. 1) Bettmann Archive. 2) Brown Bros. 528. 1) Jack A. Wolf. 531. 2) P. Morris/Ardea. 532. 1) John Mason/Ardea. 533. 1) M. Decet. 539,1,Davis Planetarium (Ray Villard). 539. 2) W. H. Amos, Bruce Coleman Inc. 540. 1) Breck Kent, Earth Scenes. 2) Frank Oberle, Bruce Coleman Inc. 3) L. West, Bruce Coleman Inc. 541. 1) Zig Leszczynski, Earth Scenes. 2) Robert Knowles, Photo Researchers. 3) Steve Kaufman, Peter Arnold, Inc. 543. 1) A. W. Ambler, NAS. 2) W. H. D. Wince, Bruce Coleman, Ltd. 3) Robert H. Glaze, Artstreet. 4) Walter Dawn. 5) Jane Burton, Bruce Coleman, Ltd. 6) A. W. Ambler, NAS. 544. 1) Edward S. Ross. 2) Grant Heilman. 3) Edward S. Ross. 4) C. F. Mohr, NAS. 5) Patti Murray, Earth Scenes. 6) J. C. Carton, Bruc Coleman Inc. 545. 1) Hoppock Associates. 2) Walter Chandoha. 3) Edward S. Ross. 4) R. C. Simpson, Tom Stack & Associates. 5) John Shaw, Tom Stack & Associates. 6) Walter Chandoha. 7) E. R. Degginger. 8) W. H. Hodge, Peter Arnold, Inc. 9) Ken Davis, Tom Stack & Associates. 547. 1) Adapted from Physical Elements of Geography, Fifth Edition by Trewartha, Robinson & Hammond. Copyright 1967 by McGraw-Hill, Inc. Used by permission of McGraw-Hill Book Company. 556. 1) Ken Brate, Photo Researchers. 2) Grant Heilman. 558. 2) Glenn Foss; Photo Researchers. 562. 1) Edward S. Ross. 2) Edward S. Ross. 3) Steve Solum, Bruce Coleman Inc. 563. 1) Grant Heilman. 2) Henry M. Cathey, U.S. Department of Agriculture. 3) Martin J. Bukovac. 4) Walter Dawn. 565. 1) Lincoln Nutting, NAS. 2) Ross R. Hutchins. 3) Peter Meyer, Tom Stack & Assoc. 4) Howard A. Miller, Sr., NAS. 566. 1) Michael D. Coe. 567. 1) Sherman V. Thomson. 2) Sherman V. Thomson. 3) James D. Miller, Agricultural Research, USDA (North Dakota State University), 4) Runk/Schoenberger from Grant Heilman, 568, 1) Jane Burton, Bruce Coleman Ltd. 2) E. R. Degginger, Earth Scenes. 569. 1) Breck P. Kent, Earth Scenes. 2) Raymond F. Hillstrom. 575. 1) CNRI, Science Photo Library. 2) Art Glauberman, Researchers. 577. 1) Pontiac Division, GMC. 2) Amoco Chemical Company, 588, 2) Harper & Row, Publishers, Inc. 3) Chevron Resources Company. 590. 2) SCALA/Art Resource. 592. 1) Robin Smith, Photographic Library of Australia. 593. 2) L.L.T. Rhodes. Click/Chicago, 594, 1) Glennon P. Donahue. Click/Chicago, 596. 1) South Street Seaport Museum, 597, 1) Ford Motor Company, 598. 2) Giraudon/Art Resource. 3) John Deere. 4) Granger Collection. 5) J. I. Case Company. 606. 1) American Plywood Assn. 608. 1) Brown University Press. 618. 1) Mary Evans Picture Library. 619. 1) Mike Price/Bruce Coleman. 622. 1) Columbia Picture. 2) Giraudon/Bridgeman Art Library. 623. 1) J. Hagar, Robert Davis Productions. 2) Rhoda Sidney, Nancy Palmer Agency. 625. 1) Rhoda Sidney, Nancy Palmer Agency. 2) Steve Leonard, Black Star. 627. 1) Eric Lessing, Magnum. 628. 1) Elliott Erwitt, Magnum. 2) Hervé Gloaguen, Woodfin Camp, Inc. 629. 2) Ed Barnas, DPI. 630. 1) Hervé Gloaguen, Woodfin Camp, Inc. 634. 1) Filip Horvat, SABA, 635, 1) Marvin E. Newman, DPI, 2) Fred Baldwin, NAS. 3) Jerry Cooke, Animals Animals. 639. 1) Metropolitan Police. 2) Metropolitan Police. 640. 1) New South Wales Police Community Relations. 641. 1) Royal Canadian Mounted Police. 642. 1) Art Brown. 2) Owen Franken, Stock Boston. 3) Marc & Evelyn Bersheim, Woodfin Camp, Inc. 4) Odyssey Productions. 644. 1) Rex Features. 645. 1) Philippe Plailty/Science Photolibrary. 646. 1) March of Dimes Birth Defects Foundation. 2) Peter Arnold. 648. 1) Traver, Gamma/Liaison. 649. 1) Brent Jones. 2) Richard Desgrand, 650, 1) Wildlight, 651, 1) G. R. Roberts. 655. 1) Brooklyn Botanic Garden. 657. 1) Leo de Wys. 658. 1) Jerry Wachter, Focus on Sports. 663. 1) Brown Bros. 664, 2) Fred M. Dole, FPG. 665, 1) SCALA/Art Resource. 669, 1) Granger Collection. 671. 1) Ralph A. Reinhold, Animals Animals. 672. 2) Ludwig Collection (Ann 673. 1) UPI/Bettmann Münchow). Newsphotos. 674. 1) Fotocronache Olympia. 2) UPI/Bettmann Newsphotos. 675. 1) Paul VI officiating at a Mass (Fotocronache Olympia). 2) François Lochon, Gamma/Liaison. 676. 1) Resource. 2) SCALA/Art SCALA/Art Resource. 3) SCALA/Art Resource. 677, 1) SCALA/Art Resource. 2) Giraudon/Art Resource. 3) Farabolafoto. 678. 1) Fotocronache Olympia. 2) Fotocronache Olympia. 3) Farabolafoto. 681. 1) Grant Heilman. 689. 2) Lenox China. 690. 1) Leonard Lee Rue III, Bruce Coleman Ltd. 691. 1) David Hall, Photo Researchers. 693. 1) Shostal Associates. 695. 2) Photri from Marilyn Gartmar. 696. 1) American Stock Photos. 2) Bradford Bachrach. 698. 2) Adeline Haaga, Tom Stack & Assoc. 701. 1) Claus Meyer, Black Star. 2) S. C. Bisserot, Bruce Coleman Inc. 3) J. Messerschmidt, Bruce

Coleman Inc. 702, 1) Toni Schneiders, Bruce Coleman Inc. 703. 2) E. Grafis, Bruce Coleman Inc. 704. 1) S. C. Bisserot, Bruce Coleman Inc. 2) Jean Claude Seine, DPI. 708. 1) Maira & Rod Borland, Brice Coleman Inc. 709, 1) Portuguese Water Dog Club of America, Inc. 710. 1) Cameramann International. Ltd. 2) Cameramann International, Ltd. 3) Warren Garst, Tom Stack & Assoc. 711. 1) United Press Int. 2) Spectrum Colour Library. 712. 1) Post Office. 713. 1) Spectrum Colour Library. 714. 1) Hutchison Library. 716. 1) Granger Collection. 720. 1) Lockwood Corporation. 721. 1) Beatrix Potter. 722. 1) Smithsonian Institution, Freer Gallery of Art, Washington, D.C. 723. 1) Rogers Fund, 1920. 2) Frank Willet. 3) Rogers Fund, 1920. 4) Fletcher Fud, 1946. 6) Collection of the Artist, Ruth Duckworth. 726. 1) Jen and Des Bartlett, Bruce Coleman Ltd. 727. 1) Photo Action Press from Photo Researchers. 728. 1) Rex Features. 733. 1) Wales Tourist Board. 736. 1) Jessie Blackburn, FPG. 737. 1) Artstreet. 739. 1) Dave Spier, Tom Stack & Assoc. 740. 1) G. Ziesler/Bruce Coleman. 740,2,Raymond V. Schoder, S.J. 748. 1) Natural Science Photo. 748,2,Field Museum of Natural History, Chicago (Robert Feldman). 749. 1) Field Museum of Natural History, Chicago. 751. 1) Institute of Human Origin. 752, 1) John Reader, SPL from Photo Researchers, 753, 2) Lee Boltin, 3) Lee Boltin, 756, 1) Ofer Bar-Yosef, Harvard University. 757. 1) Ronald Sheridan Photo Library. 2) J. Bergson, Art Diapo. 769. 1) Susan Biddle. The White House. 770. 1) UPI/Bettmann Archive. 771. 1) Hulton Deutsch Collection. 773. 1) Walter Knirr. 775. 1) Wide World. 2) Nobel Proctor, Photo Researchers. 778. 1) E. R. Degginger. 779. 1) Kim Taylor/Bruce Coleman. 789. 1) Arnold Ryan. 790. 1) Crown Copyright. 792. 1) Hans Reinhard/Bruce Coleman. 797. 1) United Press Int. 798. 1) Da-Lite Screen Co. Inc. 800. 1) Bulloz. 801. 1) Joseph J. Branney, Tom Stack & Assoc. 804. 1) Saatchi & Saatchi. 2) Dennis E. Cox, Click, Chicago. 805. 1) American Cancer Society. 2) Mary Evans Picture Library. 806. 1) Mary Evans Picture Library. 2) U.S. Army Centre of Military History. 3) National Archives, Collection of U.S. Office of War Information. 807. 1) Margot Granitsas, Photo Researchers, 808, 1) Martin Rogers, Click, Chicago. 808,2,Terry Farmer, Click, Chicago. 810. 1) Leo Touchet, Woodfin Camp, Inc. 812. 1) J. Exelby/Bruce Coleman. 2) J. Cowan/Bruce Coleman. 813. 1) Stouffer Productions, Ltd., from Animals Animals. 2) Edward S. Ross. 3) Carson Baldwin, Jr., Animals Animals. 4) Edward S. Ross. 819. 1) Manfred Kage from Peter Arnold. 2) CNRI from Science Photo Library. 3) Manfred Kage from Peter Arnold. 4) Manfred Kage from Peter Arnold. 822. 2) J. A. Barden, Photo/Nats. 824. 1) Bruce Coleman. 827. 1) Dr. Ronald H. Cohn, the Gorilla Foundation. 829. 1) David R. Frazier. 834. 1) Ayer Collection, Newberry Library. 835. 1) Sefton Photo Library. 2) Paul Tavener. 836, 1) Charringtons. 838. 1) Eve Arnold, Magnum. 846. 1) Odyssey Productions. 847. 1)

Bridgeman Art Library. 848. 2) Odyssey Productions. 849. 1) David R. Frazier Photolibrary, 2) Han Reinhard/Bruce Coleman, 850, 2) Robert Bright, National Audubon Society, 851, 1) Australian Overseas Information Service, London. 2) Brown Bros. 3) Brown Bros. 856, 1) Robert Harding Picture Library. 859. 1) Jaroslav Poncar/Bruce Coleman. 860. 1) Douglas Dickins. 861. 1) J. Allan Cash Photolibrary. 862. 3) Robert H. Glaze, Artstreet. 863. 1) Salzburg Marionette Theatre, Austria, 2) Martine Franck, Woodfin Camp, Inc. 864. 1) Victor Englebert, De Wys, Inc. 865, 1) Woodmansterne, 866, 1) Mansell, 867. 1) Grant Heilman. 868. 1) Brent Bear, Click/Chicago. 870. 1) Nadine Peacock, Anthro-Photo. 871. 1) Hulton Deutsch Collection. 2) Spectrum Colour Library. 872. 1) Hiroji Kubota, Magnum. 873. 1) Artstreet. 875. 2) Odyssey Productions. 876. 1) Eric Crichton/Bruce Coleman. 877, 1) Brown Bros. 878. 2) J. H. Robinson, Animals Animals.

Q-R

2. 1) Rosy Rouleau, Sygma. 3. 1) Robert Azzi, Woodfin Camp, Inc. 4. 1) Hans Reinhard/Bruce Coleman. 9. 1) Robert Weldon. 10. 1) R. Maiman, Sygma. 2) Eberhard E. Otto, Miller Services. 13. 1) Photographic Library of Australia. 14. 3) Douglass Baglin. 5) Lance Nelson, 17.1) Fritz Prenzel/Bruce Coleman. 2) Alan Foley. 3) Queensland Govt. Tourist Bureau. 18. 1) Queensland Travel & Tourist Corporation, 2) Queensland Travel & Tourist Corporation, 19. 2) Queensland Govt, Tourist Bureau, 20.1) Alan Foley. 2) Queensland Govt. Tourist Bureau. 3) Queensland Govt. Tourist Bureau. 21. 1) Queensland Tourist & Travel Corporation. 23. 1) Comalco. 2) Queensland Public Relations Bureau. 3) Jeff Carter. 4) Photographic Library of Australia. 24. 2) Photographic Library of Australia. 25. 1) Mitchell Library. 2) Mitchell Library. 28. 1) Philippine Department of Tourism. 29. 2) Eric Crichton, Bruce Coleman Ltd. 31, 1) Shostal. 32.1) Spectrum Colour Library. 33. 1) Mary Evans Picture Library. 34. 1) Hutchison Library. 36. 1) Robert J. Ellison, NAS. 37, 1) Andrew Henley/Biofotos. 38. 2) Jane Burton, Bruce Coleman Inc. 41. 2) Hans Reinhard. Bruce Coleman Ltd. 3) E. R. Degginger, 42, 1) Michael Heron, Woodfin Camp. 46. 1) Gerard, Photo Researchers. 2) Jacques Jangaux from Peter Arnold. 3) Blaine Harrington, The Stock Market. 4) Martha Cooper from Peter Amold. 5) David Huntley, The Stock Market. 6) Gerd Ludwig, Woodfin Camp. 49. 1) Bettmann Archive. 50. 1) New York Times. 53. 1) All rights reserved. By permission of Viking-Penguin Inc. 54. 1) Hughes Aircraft Company. 55. 1) Stan Schrero. 56. 1) U.S. Air Force. 3) U.S. Air Force. 57. 2) Jim Wilson, NCAR. 3) Milt and Joan Mann. 59. 1) Goodyear Aerospace Corporation. 62. 1) Ron Phillips. 63. 1) Hulton Deutsch Collection. 73. 2) Dennis Hallinan, FPG. 3) Tom Campbell, FPG. 75.1) Bob Glaze, Artstreet. 2) Harry Hamlin, Photo Trends. 3) J. Alex Langley, DPI. 81 1) Cameramann International, Ltd. 83. 1)

Culver. 2) Bettmann. 3) Culver. 4) Culver. 84. 1) NBC. 2) Topham. 85. 2) Culver. 87. 2) American Radio Relay League. 89.1) Dan McCoy, Rainbow.2) E-Systems. 3) Dan McCoy, Rainbow. 91. 1) St. Bartholomew's Hospital/Science Photo Library, 92, 1) David R. Frazier. 93. 1) Wide World. 95. 1) AP/Wide World. 2) Eslami Rad, Gamma/Liaison, 3) Phil Degginger from E. R. Degginger. 97, 1) Gamma/Liaison. 98. 1) British Rail. 2) British Rail. 99. 1) Photo Trends. 101. 2) British Rail. 102. 2) Atchison, Topeka and Santa Fe Railway, 102,3, Atchison, Topeka and Santa Fe Railway. 4) Gerry Souter, Van Cleve Photography. 104. 1) Rockwell International. 106. 1) I. R. Machian. 107. 1) I.R. Machian. 108. 1) Tony Stone Photolibrary, London, 110. 1) A. E. Lewis. 111.1) Drawing (About 1805) by an unknown artist. Bettmann Archive, 113. Model Railroader. 114. 1) Model Railroader, 115, 1) Model Railroader, 2) Model Railroader. 121, 1) G. Schachmes, Sygma. 123. 1) Pat Bahree. 124. 1) Roderick Johnson, Images of India. 125. 1) Gerald Cubitt/Bruce Coleman. 126. 1) Pat Bahree. 2) J. Allan Cash Photolibrary. 127. 1) Case IH. 130. 1) The Bridgeman Art Library/British Museum, 131, 1) Oxford Scientific Films/Hans and Judy Beste. 132, 1) Rex Features. 133, 1) Robert Azzi, Woodfin Camp, Inc. 134. 1) Werner Stoy, Camera Hawaii; Ernst Peterson, Publix. 2) Werner Stoy, Camera Hawaii; Ernst Peterson, Publix. 136. 1) Indian High Commission, 138, 1) SCALA, 2) SCALA, 140, 2) Culver. 141.1) John Markham, Bruce Coleman Inc. 2) Alan Blank, Bruce Coleman Inc. 143, 1) Mark N. Brultan, Photo Researchers. 144. 1) Angus McBean. 145. 2) Zig Leszczynski, Animals Animals. 3) Field Museum of Natural History, Chicago. 4) Charles Palek, Animals Animals. 149. 1) David R. Frazier. 150. 2) Richard Gross, The Stock Market. 3) David R. Frazier Photolibrary. 153. 1) T. A. Etter. 156. 1) Superstock. 157. 2) Reading Is Fundamental: Illustrated by Tracy Bailey, winner of RtF National Poster Contest. 158, 1) J. R. Holland, Stock, Boston. 161. 1) Bettmann Archive. 164. 2) Tony Brain, SPL from Photo Researchers. 167. 1) W. H. Smith Group. 168. 2) Bruce Thomas, The Stock Market. 171.1) Red Cross. 172, 1) American Red Cross. 2) American Red Cross. 175. 1) The Mitchell Library. 2) Howard Frank Archive. 177. 1) Bob Fitch, Black Star. 2) Gerald French, Photofile. 180. 1) Engraving of the 1500's by M. Herz and G. Köler; Bibliothèque Nationale, Paris. 2) Wood engraving of the early 1500's by Jorg Breu the Elder; The Newberry Library, Chicago. 185. 1) Republic Steel Corp. 189. 1) SEF/Art Resource. 190. 1) Bruce Coleman Ltd. 195. 1) SEF/Art Resource. 2) SCALA/Art Resource. 3) SCALA/Art Resource. 196, 1) Richard Kehrwald, Black Star. 2) John Launois, Black Star. 197. 1) Edward S. Ross. 2) T. S. Satyan, Black Star. 198. 1) SCALA. 199. 1) Douglas Dickins, A.G.E., Fotostock. 2) Ted Spiegel, Black Star. 200. 1) Tom Stack. 202. 1) Artstreet. 203. 1) Milt and Joan Mann. 204. 1) Milt and Joan Mann. 205. 1) Elkoussy. Sygma. 206. 1) Pramod Pushkama, India

Today/Sipa/Rex. 207. 1) The Hutchison Library, 210, 3) The Frick Collection, New York City. 4) The Frick Collection, New York City. 211, 1) Press Association. 213, 3) NASA, 214, 1) SCALA/Art Resource, 2) Samuel H. Kress collection, 1939. 216. 1) SCALA/Art Resource, 2) Widener collection, 1942, 217, 1) SCALA/Art Resource. 2) SCALA/Art Resource, 3) SCALA/Art Resource, 218, 1) Art Resource. 219. 1) SCALA/Art Resource. 2) SCALA/Art Resource. 220. 1) SCALA/Art Resource. 2) Art Resource. 222. 2) Brown Bros. 223. 1) James H. Karales from Peter Arnold, 224, 1) M. D. Phillips, Phototake, 2) M. I. Walker from Photo Researchers. 225, 1) <c> Lennart Nilsson, 1990. From A Child is Born, Dell Publishing Company, 2) Lennart Nilsson, Life Magazine. 3) Dan McCoy, Rainbow, 235, 1) Hank Morgan, Rainbow, 2) Arvin Calspan Corporation. 236. 1) Schecter, Gamma/Liaison. 237. 1) Oak Ridge National Laboratory, Martin Marietta Energy Systems. Inc. 238. 1) Craig Goch Dam & Reservoir, Elan Valley. 242. 2) Andrew Besley. 243. 1) MAS. 244. 1) Katalin Arkell/NETWORK. 246. 1) Gift of Joseph W. Revere, William B. Revere, and Edward H. R. Revere. 248. 1) Icelandic Photo & Press Service. 249. 1) John Webb. 250, 1) UPI/Bettmann Newsphoto. 2) George H. Harrison from Grant Heilman. 252. 1) Shostal. 253. 1) Clem Haagner, Bruce Coleman Inc. 2) Ylla, Rapho Guillumette. 3) E. R. Degginger. 254. 1) Norman Myers, Bruce Coleman Inc. 2) C. A. Morgan. 3) Bradley Smith, Animals Animals. 4) J. C. Stevenson, Animals Animals, 256, 1) Culver Pictures. 257, 2) E. R. Ricciuti, Photo Researchers. 3) Dale Athenas, Photo Researchers. 260. 1) P. Morris/Ardea, London. 261. 1) E. R. Degginger, Bruce Coleman Inc. 2) W. E. Ruth, Bruce Coleman Inc. 262. 2) Source: Composition of Foods/Raw, Processed, Prepared, Agriculture Handbook No. 8, Agricultural Research Service, Department of Agriculture. Data are for uncooked white rice. 264. 1) Leon V. Kofod. 2) John Launois, Black Star. 3) V. Rastelli, Woodfin Camp, Inc. 4) Norman Myers, Bruce Coleman Inc. 265, 1) Grant Heilman. 2) Grant Heilman. 266. 1) Charles Moore, Black Star. 267. 1) National Library of Ireland. 2) Superstar Ventures Ltd. 268. 2) Australian News. 269. 1) Odyssey Productions. 270. 1) Brown Bros. 273. 1) Mitchell Library. 2) Spectrum Colour Library. 275. 1) Roger Roland Fuhr, ROLANDesign. 2) Roger Roland Fuhr, *ROLAND*esign. 3) Roger Roland Fuhr, *ROLAND*esign. 4) Roger Roland Fuhr, ROLANDesign. 5) Roger Roland Fuhr, ROLANDesign. 276. 2) Sharps Arms Company. 3) Roger Roland Fuhr, ROLANDesign. 278. 1) Culver. 279. 1) Jim Merrithew, Ringette Canada. 2) Library of Congress. 281. 1) Victor Englebert, Black Star. 2) Claus Meyer, Black Star. 282. 1) J. Allan Cash Photolibrary. 2) Image Bank. 283. 2) J. Allan Cash Photolibrary. 285. 1) Joe Viesti, 287, 1) Frank Spooner Pictures/M. Polak/Urpress. 289. 1) David Brinicombe, Hutchinson. 2) David Brinicombe, Hutchinson. 293. 1) Fresco (1942) by Diego Rivera;

Giraudon, 294, 2) Marc Riboud, Magnum. 295, 2) Douglass Baglin, 296, 1) Airviews. 301. 1) Culver. 2) The Mansell Collection. 302, 2) Russ Kinne, Photo Researchers, 303, 1) Brandwine River Museum, Chadds Ford, Pa. 304, 1) Wide World, 305, 1) The Bridgemann Art Library/Chris Beetles Ltd. 2) Arnold Zann, Black Star. 3) 1957 Charles Scribner's Sons. 306. 1) Brown Bros. 2) Alisport. 308. 1) A. W. Ambler, NAS/Photo Researchers. 2) Lee Boltin. 3) L. S. Stepanowicz, Panographics. 4) Lee Boltin. 5) L. S. Stepanowicz, Panographics. 6) Charles R. Belinky, Photo Researchers. 8) Lee Boltin. 9) L. S. Stepanowicz, Panographics, 11) L. S. Stepanowicz, Panographics. 12) A. W. Ambler, NAS/Photo Researchers. 309. 1) Lee Boltin. 2) L. S. Stepanowicz, Panographics. 3) A. W. Ambler, NAS/Photo Researchers. 4) A. W. Ambler, NAS/Photo Researchers, 5) Lee Boltin, 6) George Whitely, Photo Researchers. 311, 1) Bettmann. 312, 1) UPI/Bettmann. 2) UPI/Bettmann. 314. 2) John Roca, LGI. 315. 1) Wide World. 316. 1) NASA. 318. 1) NASA. 2) Photri. 319. 1) Sovfoto. 2) NASA. 3) NASA. 322, 1) Litton Educational Publishing, Inc. 2) National Geographic Society courtesy Esther C. Goddard, 326, 1) Mr. and Mrs. Ken Stuart Collection. 2) United Press International. 328. 1) Glenn Tooke, Image Finders. 330. 1) Thomas Woodrich, Hillstrom Stock Photo. 331. 1) The Rodin Museum, Philadelphia, gift of Jules E. Mastbaum. 333. 1) Gordon Langsbury/Bruce Coleman. 2) Roller Skating Rink Operators Association. 339. 1) SCALA. 347. 1) Robert Estall, Robert Harding Picture Library Ltd. 2) S. H. and D. H. Cavanaugh, Robert Harding Picture Library Ltd. 348. 1) Giraudon/Art Resource. 349. 1) William Gelman, F.P.G. 350. 1) William Gelman, Artstreet. 351. 1) Kurt Scholz, ZEFA from Publix, 2) Kurt Scholz, ZEFA from Publix. 352. 1) James Theologos, Keystone. 2) James Theologos, Keystone. 354. 1) Robert Harding Picture Library, 355, 2) William Gelman, Artstreet. 356. 1) William Gelman, Black Star. 363. 2) Robert Harding Picture Library. 365. 1) E. Streichan, Shostal. 2) Luiz Claudio Marigo, Bruce Coleman Ltd. 366. 1) Francesco Garufi, Contrasto from Grazia Neri. 3) SCALA/Art Resource. 367. 1) FPG. 2) Mario Gerardi Photography. 4) SCALA/Art Resource. 5) The Photo Source from Shostal. 368. 1) Gerald Clyde, FPG. 2) SCALA/Art Resource. 369. 1) SCALA/Art Resource. 370. 1) Shostal. 2) Robert Harding Picture Library. 380, 1) SCALA/Art Resource. 2) SCALA/Art Resource. 3) SCALA/Art Resource. 381. 1) Giraudon/Art Resource. 2) André Martin, Arthaud. 3) SCALA/Art Resource. 386. 2) Karsh, Ottawa. 387. 1) United Press Int. 388. 1) Franklin D. Roosevelt Library. 389. 1) United Press Int. 391. 1) National Geographic Society. 395. 1) Artstreet. 2) George Hail. 4) George Hall. 397. 1) Bord Failte Éireann. 398. Roger and Joy Spurr, Bruce Coleman Inc. 399. 1) Jim Collins. 2) Heather Angel. 400. 1) Information Service. Australian Photographic Library of Australia. 401. 1) AP/Wide World. 402. 1) British Museum, London (Bridgeman Art Library/Art Resource).

403, 1) Fionnbar Callanan, 405, 1) Gift of the Cleveland Society for Contemporary Art. 407. 1) 1983 Inge Morath, Magnum, 408, 1) John Walsh, Science Photo Library, 2) John Walsh, Science Photo Library, 3) Chris Gilbert. 409. 1) Robert Harding Picture Library, 410, 2) Jean Guarny, Magnum. 412. 1) Bord Fáilte Éireann. 414, 1) M. L. Thomas. 416, 1) Royal Australian Mint. 2) Robert Harding Picture Library. 418. 1) Tim Graham. 419. 1) Photographers International/Jayne Fincher. 2) Tim Graham. 3) J. S. Library. 420. 1) Tim Graham. 421. 1) Tim Graham. 2) Tim Graham. 423. 1) Photo Source. 424. 1) Tim 2) **Photographers** International/Jayne Fincher, 425, 1) Anwar Hussein, 427, 1) Courtesy of the Royal Mint. 428. 1) Allsport/Gray Mortimore. 430. 1) Photo Researchers, 2) Goodyear Tire & Rubber Co. 431, 1) Goodvear Tire & Rubber Co. 434, 2) Firestone Tire & Rubber Company. 435. 1) Firestone Tire & Rubber Company. 2) Firestone Tire & Rubber Company. 439.1) Paul Robert Perry. 441. 1) Art Resource. 442. 1) ESTO. 443. 1) Harry Engels, Animais Animals, 2) Focus on Sports, 445, 1) Ross Setford, 446, 1) Mickey Pfleger, 3) Focus on Sports. 447. 1) Photographic Library of Australia, 448, 1) Colorsport, 2) Galaxy Carpet Mills, Inc. 3) Tony Howarth, Woodfin Camp, Inc. 451. 2) Charles W. Jacobsen, Inc. 3) The Metropolitan Museum of Art, Bequest of Benjamin Altman, 1913. 453. 2) Ewing Galloway, 454.2) Wide World, 457. 1) Camera Press. 458. 2) Focus on Sports. 459. 2) National Portrait Gallery, 461, 1) United Press Int. 462, 1) Superstock, 464, 1) ITAR-Tass from Sovioto. 2) ITAR-Tass from Sovioto. 3) Ken Proctor, Superstock. 465. 1) RIA-Novosti from Sovfoto, 470, 2) United Press Int. 471, 1) ITAR-Tass from Sovfoto. 2) Andy Hernandez, Sipa Press. 472. 1) ITAR-Tass from Sovioto. 473. 1) Chris Waddle, Gamma/Liaison. 474. 1) Kurt Scholz, Shostal. 475. 1) Patrick David, Sipa Press. 2) Laski, Sipa Press. 478. 1) ITAR-Tass from Sovfoto. 2) Paolo Koch, Photo Researchers, 479, 1) (TAR-Tass from Sovioto. 480. 1) Laski, Sipa Press. 481. 1) RIA-Novosti from Sovioto. 482. 1) ITAR-Tass from Sovfoto. 2) Cary Wolinsky, Stock, Boston, 483, 1) ITAR-Tass from Sovioto. 485. 1) Historical Pictures Service. 486. 1) ITAR-Tass from Sovioto. 487. 1) RIA-Novosti from Sovioto, 489, 1) Sovioto, 491, 1) ITAR-Tass from Sovioto, 492, 2) Epix from Sygma, 495. 1) Novosti Press Agency, Moscow. 501. 1) Kobal. 502.1) United Press Int. 503. 1) Mary Evans Picture Library. 504. 1) New York Yankees. 506, 1) ITAR-Tass from Sovfoto. 507. 1) Bernard Gerard, Explorer. 510. 2) Tass from Sovieto.

S-Sn

3. 1) Dinamika/Yahaya Ismail. 4. 1) Bruce Coleman. 5. 2) Painting by Charles R. Knight, American Museum of Natural History. 6. 1) Bettmann Archive. 9.. 1) Paul Robert Perry. 2) David R. Frazier. 3) Ellis Herwig from Marilyn Garfman. 14. 1) Mothercare UK. 15. 1) Sally and Richard Greenhill. 16. 1) Photri from

Marilyn Gartman, 17, 1) Hans Reinhard/Bruce Coleman. 2) Wide World, 18. 1) Edward S. Ross. 2) Royal Astronomical Society Library. 19. 1) H. Coss, Saguaro National Monument. 20. 1) Julian Calder from Susan Griggs. 2) Victor Englebert/Susan Griggs. 22. 1) Artstreet, 23, 1) Eric Anderson, Stock Boston. 3) Otto Schatz, FPG. 25. 1) Trev Kyle, West Stock. 26. 1) John Feingersh, Stock, Boston. 27. 1) Kirk Schlea, Allsport. 29. 1) Scottish Tourist Board. 30. 1) Bob and Ira Spring. 31. 2) Roger Foley, Photo Researchers. 32. 1) Photo by Lou Goodale Bigelow (The Dance Collection, New York Public Library), 33, 1) Art Resource, 34, 1) Richard Harrington, FPG, 2) From HERALDRY: Sources, Symbols and Meanings, McGraw-Hill Book Co. 38, 1) St. Louis Regional Commerce & Growth Assn. 42. 1) S. Kanno, FPG. 43. 1) Tom Tracy Black Star. 2) Vance Henry Taurus. 45. 2) J. Alex Langley, DPI, 51, 1) Wesley Bocxe, JB Pictures. 2) Eberhard Streichan, Shostal. 55. 1) R. Elich, Artstreet. 56. 1) Cameramann International Ltd. 2) Charles Falco Science Source from Photo Researchers. 57. 1) Isaac Geib, Grant Hellman. 2) Liane Enkelis, Stock, Boston. 3) Morton Thiokol, Inc. 59. 2) E. Hayes, Miller Services. 3) Terry Smith, Camera Press. 60. 2) Diane E. Tolcher, The Saivation Army. 62. 1) Sampler (1820) by Sarah Carson; Philadelphia Museum of Art, the Whitman Sampler Collection, given by Pet Inc. 63. 1) Warren Garst, Tom Stack and Assoc. 65. 1) The Trane Company. 66, 1) George Hall. 68, 1) Guglielmo Mairani, Grazia Nerl Agency, 69, 1) Granger Collection, 70, 1) Chicago Historical Society. 2) Alex Kerstitch. 71. 1)Jack Breed, American Museum of Natural History. 2) Christine Osborne. 72, 1) Schaal, Pix. 73, 2) Britain on View. 77, 1) Drawing (1879) by Thomas Nast from Harper's Weekly (The Newberry Library, Chicago). 2) Ellis Herwig from Marilyn Gartman. 79. 1) ZEFA. 80. 1) The Hutchison Library. 2) Bettmann Archive. 82. 1) Gavin A. Mather, DPI. 84. 1) Linda Bartlett/Colorific. 86. 1) John Shaw/Bruce Coleman. 88. 1) Malaysian Tourist Board-TDC, 2) Robert Harding Picture Library. 93. 1) Britain on View. 2) Jerry Bauer, Pix from Publix. 3) National Library of Ireland. 94. 1) Wide World. 2) William H. Alien, Jr. 95. 1) NASA. 97. 1) Walter A. Bohan Co. 2) U.S. Air Force. 3) NASA. 98, 1) Sovfoto, 100, 1) NASA, 101, 1) U.S. Naval Observatory. 102. 1) Jet Propulsion Laboratory. 103. 1) Arabian American Oil Company. 2) Tony Howarth, Woodfin Camp, Inc. 104. 1) Fred Ward, Black Star. 105. 1) Tony Howarth, Woodfin Camp, Inc. 2) Tor Eigeland, Black Star. 107, 1) Arabian American Oil Company, 2) Tony Howarth, Woodfin Camp, Inc. 108. 1) Arabian American Oil Company. 109. 1) Tor Eigeland, Black Star. 110. 1) Tony Howarth, Woodfin Camp, Inc. 2) Robert Harding Picture Library. 111. 1) Mary Evans Picture Library. 112. 1) Peter Sanders. 114. 1) Office of the Prime Minister. 115. 1) Granger Collection. 119. 1) Salter Industrial Measurement, 122, 1) Charles Tait. 2) Bruce Coleman Inc. 128. 1) Jan Lönn from Carl Östman. 2) J. Alex

Langley, DPI. 4) Photophile. 129, 1) Australian High Commission, London. 130. 1) Chris Fairclough, 131, 1) Topix/Martin Birley, 132, 1) John Walmesley. 2) Tropix/D. Chartwood. 133, 1) Bruce Paton/Panos Pictures, 2) Carl Purcell. 3) Jeffrey Blankford, B.B.M. Associates. 134. 1) Carlos Reves/Andes Press Agency. 136. 1) 1966 United Features Syndicate Inc. 137. 1) Marilyn Silverstone, Magnum. 138. 1) Hank Morgan, Photo Researchers. 2) Jonathan Blair, Woodfin Camp, Inc. 3) Cindy Rymer, Click/Chicago. 4) Sepp Seitz, Woodfin Camp, Inc. 140. 1) Chuck O'Rear, Woodfin Camp. Inc. 142, 1) Granger Collection, 2) SCALA/Art Resource. 3) Granger Collection. 143. 1) Jay M. Pasachoff, 2) Granger Collection, 3) Granger Collection. 144. 1) Mary Evans Picture Library. 2) Bettmann Archive. 3) Hunt Institute for Botanical Documentation. Carnegie-Mellon University. 145. 1) Bettmann Archive. 3) Granger Collection. 146, 1) Bettmann Archive. 2) Granger Collection. 3) Granger Collection. 147. 1) Granger Collection. 2) Historical Pictures Service. 3) Bar-Brown, Camera Press Ltd. 148. 1) NASA. 2) Fermilab. John Mararas, Woodfin Camp, Inc. 3) John Marmaras, Woodfin Camp, Inc. 153. 1) J. Allan Cash Photolibrary. 154. 1) Zoe Dominic, Camera Press. 155. 1) Royal Astronomical Society, London. 3) Mik Dakin/Bruce Coleman. 156. 1) John L. Stage, Photo Researchers. David Follansbee, Photo Researchers. 157. 1) David Hurn, Magnum. 160. 1) David Hurn, Magnum. 161. 1) Don Evans from Tom Stack. 2) British Tourist Authority. 163. 1) Skyport from Publix. 165. 1) Aviemore Photographic. 2) Scottish Tourist Board. Richard Folwell. Researchers. 166. 1) Spectrum Colour Library. 2) Robert Harding Picture Library. 167. 1) Ken Andrew. 168. 1) Scottish Tourist Board. 169. 1) Mary Evans Picture Library/James Doyle. 170. 1) Scottish Tourist Board. 2) Ken Andrew. 171. 1) Glasgow Museums and Art Galleries. 2) Scottish Tourist Board. 173. 1) Painting by P. D. Moner; Crown Copyright. 178. 1) World Scout Bureau. 179. 1) World Scout Bureau. 180, 1) World Scout Bureau. 2) World Scout Bureau. 181, 1) World Scout Bureau. 182. 1) Boy Scouts of Canada. 185. 1) Richard Lobell, United Jewish Appeal. 2) Australian News. 186. 1) Raymond V. Schoder, S.J. 187, 2) The Museum of Modern Art, New York. 188, 1) Art Reference Bureau. 2) Art Reference Bureau. 3) Donald Woodman. 189. 1) Novosti Press Agency, Moscow. 190. 2) Raymond V. Schoder, S.J. 191. 1) Raymond V. Schoder, S.J. 2) Lillioe P. Bliss Bequest. 194. 1) Naturhistorisches Museum, Vienna, Austria. 2) Art Reference Bureau. 195. 1) Leon Harmon, Photo Researchers. 2) Art Research Bureau. 3) Art Reference Bureau. 199. 2) David L. Brill, The Stock Market. 203. 2) Herbert Cole. 204. 1) Hickey-Robertson. 205. 2) Art Resource. 3) Dirk Bakker. 206. 2) Raymond V. Schoder, S.J. 207. 1) Hirmer Foto from Art Reference Bureau. 2) Art Reference Bureau. 208. 1) Art Reference Bureau. 2) SCALA/Art Reference. 209. 1) The Treasury, Aachen Cathedral,

Germany. 210, 1) Hirmer Fotoarchiv, 2) R. K. Morris, University of Warwick, Coventry, 211. 1) SCALA/Art Reference. 213. 1) Art Reference Bureau. 214. 1) Art Reference Bureau. 2) Giraudon/Art Resource, 217, 1) Art Reference Bureau. 3) O. K. Harris Works of Art. 220. 1) Al Goldings, Bruce Coleman Inc. 221. 1) Extinct and Vanishing Mammals of the Western Hemisphere by Grover M. Allen, 2) R. F. Thomas, Bruce Coleman Ltd. 3) Douglas Faulkner. 222. 1) Carl Roessler, Animals Animals. 2) R. H. Armstrong, Animals Animals, 223, 1) Kenneth R. H. Read, Tom Stack & Assoc. 225, 1) Steve McCutcheon. 227, 1) Norman Tomalin/Bruce Coleman, 2) Cy La Tour. 228, 1) Perpetua/Ronald Searle. 234. 1) John Kohout. 236. 1) Derek Fell. 2) Tom Inglesby. 3) Ray D. Walker, Van Cleve Photography. 237. 1) Walter Dunn. 2) Walter Dunn, 3) Walter Dunn, 238, 1) NBC Television, 2) Hans Namuth, 242, 3) Yahava Ismail. 243. 1) Douglas Dickins. 247. 1) Peter Boston. 2) David Stock, Scharf/Science Photolibrary, 249, 1) US Capitol Historical Society (National Geographic). 250. 1) AP/Wide World. 252. 1) Joseph F. Viesti, F.P.G. 2) E. G. Ahounou, Stock photos. 3) George Holton, Photo Researchers. 253. 1) Robert Harding Picture Library, 2) Cynthia Foster, 254, 1) David Lomax/Camera Press. 255. 1) Wisconsin Center for Film and Theater Research. 256.3) Runk Schoenberger/Grant Heilman. 6) Runk Schoenberger/Grant Heilman. 259. 1) Cameramann International Ltd. 260. 1) Porterfield Chickering, Photo Researchers. 261, 1) Lorea National Topurism Corporation. 262. 1) Richard C. Burns, National Park Service. 265. 1) Tom Sobolik, Black Star. 266. 1) Linda Bartlett, Photo Researchers. 270, 1) Mark N. Boulton/Bruce Coleman, 271, 2) Visual Arts Library/Washington Freer Gallery of Art. 278. 1) E. T. Masterson. 293. 1) Kurt Scholz, Shostal. 294. 1) E.Streichan, Shostal. 298. 1) Stratford Festival Theatre, Ontario. Folger 1) Engraving (1623); Shakespeare Library, Washington D.C. 300. Neil Jinkerson, Jarrold Colour Publications. 2) Peter Baker. 3) By permission of the Headmaster and Governors (Peter Baker). 302. 1) Jarrold Colour Publications. 303. 1) British Tourist Authority. 304. 1) Collection of Simon Wingfield Digby, Sherborne, Dorset, England (American Heritage), 305, 1) Folger Shakespeare Library, Washington D.C., USA. 309. 1) Billy Rose Theatre Collection, New York Public Library at Lincoln Center, Astor Lenox and Tilden Foundations. 311. 1) Photostage. 312. 1) Holte Photographics. 313. 1) Temba Theatre Company. 314. 1) De Wys. 315. 1) George E. Joseph. 2) Photostage. 316. 1) Photostage. 317. 2) Photostage. 318. 1) Angus McBean/The Shakespeare Centre Library, Stratford-upon-Avon. 320. 1) Photostage. 321. 1) Martha Swope, 326, 2) Bettmann Archive, 3) Brown Bros. 327. 1) Billy Rose Theatre Collection. New York Public Library at Lincoln Center, Astor Lenox and Tilden Foundations, 329. 1) Mark Reinstein, Gamma/Liaison. 2) Bruce Barbey, Magnum. 330. 1) Nik Wheeler, Black

Star, 2) Tim Hall/Redferns, 333, 1) Peter Lake from Peter Schub. 3) Kent Cambridge Scientific, Inc. 334. 1) Marine Studios, Marineland of Florida. 337. 1) Farmers Weekly Colour Library. 338. 1) John Moss, Colorific, 339, 1) E. S. Ross, 2) Tony Carr, Colorific, 3) Lia Munson, 4) G. R. Roberts, 5) Adam Woolfitt, Woodfin Camp, Inc. 340. 1) G. R. Roberts. 341. 1) Rex Features. 342. 1) Walter Dawn, 2) John H. Gerard, 3) Ben Cropp, Keystone. 4) Peter Throckmorton from Nancy Palmer. 5) Walter Dawn. 6) Leonard Lee Rue, NAS, 344, 5) Specimens courtesy the Academy of Natural Sciences and Albert Lindar. 347. 1) Susan Wells. 2) Susan Wells. 3) Susan Wells. 4) Susan Wells. 348. 1) Courtesy of Edward Waldo Forbes Heirs. 2) Metropolitan Museum of Art, New York, Beguest of Benjamin Altman, 1913. 3) Walter Dawn, 350, 1) Hubertus Kanus, Shostal, 2) Hutchison Library. 3) Robert Harding Picture Library. 352. 1) Artstreet. 2) Ernest Manewal, Shostal. 353. 1) NASA. 354. 1) Romney, Hythe & Dymchurch Light Railway. 2) Brown Bros. 355. 1) Mary Evans Picture Library. 2) U & U. 357, 1) Dennis Coutts. 2) Dennis Coutts. 358. 1) Robert Maier, Animals Animals. 2) UPI/Bettman. 359. 1) Walter Chandoha. 360. 1) Douglass Baglin. 361. 1) Farrell Grenham, Photo Researchers. 362. 1) J. Alex Langley, Click/Chicago. 374. 1) Cunard Line Ltd. 375. 1) Dorf & Stanton. 2) Dorf & Stanton. 3) Dorf & Stanton, 376, 1) Paul Kotz, West Stock. 377. 2) David R. Frazier. 3) Edward Nyren, Shostal, 378. 2) Tim Heneghan, West Stock. 3) Walter Hodges, West Stock. 379. 1) Bertrand Duruel, Explorer. 2) Grant Heilman. 380, 2) David R. Frazier, 3) Bruce Brander, Photo Researchers. 381, 2) David R. Frazier. 3) Martin Rogers, F.P.G. 382. 1) F. Gordon & Sons from FPG. 387. 1) T. Nebbia, DPI. 390. 1) Hutchison Library. 391. 2) Tom McHugh, Photo Researchers. 392. 1) National Small Bore Association. 399, 1) Allsport. 400, 1) Hans Reinhard/Bruce Coleman. 2) Des & Jen Bartlett, Bruce Coleman, Inc. 402. 1) Landscape Only. 403. 1) AA Picture Library. 2) G. Enrie, Holy Shroud Guild. 405. 1) Camera Press. 2) Culver. 3) Granger Collection. 406. 1) Howard Sochurek, Woodfin Camp, Inc. 2) Howard Sochurek, Woodfin Camp, Inc. 408. 1) American Kennel Club Library. 409, 1) Tom Schneiders, Bruce Coleman Inc. 410. 2) Eric V. Gravé, 413, 1) J. Allan Cash Photolibrary. 2) Michelle Burgess, The Stock Market. 417. 1) Steve Maines, Stock, Boston. 418. 1) J. Allan Cash Photolibrary. 419. 1) Hutchison Library. 2) Brown Bros. 422. 1) Eastfoto. 423. 1) Eastfoto. 2) Eastfoto. 428. 1) Reed & Barton Silversmiths. 2) Reed & Barton Silversmiths. 3) Reed & Barton Silversmiths. 4) Reed & Barton Silversmiths. 5) Reed & Barton Silversmiths. 6) Reed & Barton Silversmiths. 431. 1) Australian Picture Library. 432. 1) Jim Britt, Shooting Star. 2) Courtesy of Sinclair Research. 433. 1) Graham Saunders. 2) Singapore Tourist Board. 434. 1) Graham Saunders. 2) Singapore Tourist Board. 3) J. Allan Cash Photolibrary. 435. 1) Hutchison Library. 2) Hutchison Library. 436. 1) Spectrum Colour

Library, 2) Graham Saunders, 3) Image Bank, 437, 1) Singapore Tourist Promotions Board. 438, 1) Spectrum Colour Library, 2) Spectrum Colour Library, 3) Spectrum Colour Library, 439, 1) Graham Saunders, 2) Graham Saunders, 3) Singapore Tourist Board, 440, 1) Spectrum Colour Library. 2) Image Bank. 442. 1) Graham Saunders. 2) Robert Harding Picture Library. 443. 1) Image Bank. 2) Image Bank. 3) Graham Saunders. 444. 1) J. Allan Cash Photolibrary. 2) Singapore Tourist Board. 3) Singapore Tourist Board. 445. 1) Spectrum Colour Library. 2) Spectrum Colour Library. 446. 1) Graham Saunders. 447. 1) Singapore Tourist Board. 2) Singapore National Museum. 3) Singapore National Museum. 448. 1) Singapore National Museum, 2) Singapore National Museum. 449. 1) Singapore National Museum. 3) Singapore National Museum. 450. 1) Singapore National Museum. 451, 1) Imperial War Museum. 452. 1) Rex Features. 458. 1) Marilyn Silverstone, Magnum. 2) Brown Bros. 3) Cecil Beaton, Camera Press from Photo Trends. 459. 1) Pierre Kopp, West Light. 462. 1) Photri. 2) Peter Miller. 463. 1) Jerry Cooke. 466. 1) Jerry Cooke. 2) Spectrum Colour Library. 467. 1) Photri. 472. 1) M. Timothy O'Keefe, Bruce Coleman. 2) Robert Abrams, Bruce Coleman Inc. 474. 1) Cosmos Blank. National Audubon Society from Photo Researchers. 475. 2) Shelly Grossman, Woodfin Camp, Inc. 3) Bruce Coleman. 476. 1) Stephen Wood, United States Parachute Association. 2) Scottish Tourist Board. 481. 1) Art Resource. 483. 1) Granger Collection. 485. 1) Centers for Disease Control. 487. 2) Fignihar Callanan, 488, 3) Michael Fogden, Bruce Coleman, Inc. 489. 1) E. Hanumantha Rao, Photo Researchers. 2) Adam Woolfit, Robert Harding Picture Library. 490. 1) E. Hannmantha Rao, Photo Researchers. 491. 1) CTK/Eastfoto. 493. 1) Tom Sobolik, Black Star. 494. 1) Steve McCurry, Magnum. 495. 1) Charles W. Mann, National Audubon Society. 499. 1) J. Allan Cash Photolibrary. 503. 1) É. S. Ross. 504, 1) P. Laboute, Jacana. 2) Lois Heilman from Grant 3) Gordon Runk/Schoenberger. 506. 1) Wiltsie/Bruce Coleman. 507. 2) E. R. Degginger. 510. 1) Allan Power, Bruce Coleman Inc. 2) Clem Haagner/Bruce Coleman. 3) Karl H. Switak. 511. 1) Zig Leszczynski, Animals Animals. 2) Zig Leszczynski, Animals Animals. 512. 1) Zig Leszczysnki, Animals Animals. 2) Zig Leszczysnki, Animals Animals. 3) Zig Leszczysnki, Animals Animals. 513. 1) George George Bernard/NHPA. 2) McCarthy/Bruce Coleman. 3) A. Stevens/Bruce Coleman. 4) Bill Wood/Bruce Coleman. 5) Adrian Warren/Ardea, London. 514. 1) Hans Reinhard/Bruce Coleman. 2) Norman Myers/Bruce Coleman. 4) C. B. & D. W. Frith/Bruce Coleman. 5) Wardene Weisser/Ardea, London. 515, 1) Wide World. 3) A. J. Stevens/Bruce Coleman. 4) Bill Adrian 5) Wood/Bruce Coleman. Warren/Ardea, London. 519. 2) Wide World. 520. 1) Charlie Olt, DPI. 2) Photri. 521. 1) Spectrum Colour Library. 2) Brooks Martner, University of Wyoming, 522, 1) Spectrum Colour Library, 523, 1) Bruce Coleman, 2) Tom McHugh, 524, 1) Artstreet, 2) Iverson Snowshoe C. 3) Mary Stouffer, Animals Animals, 526, 1) Fritz Prenzel.

So-Sz

14, 1) Wolfe Fund, 1931. Catherine Lorillard Wolfe Collection. 17. 1) Joseph F. Viesti, FPG. 2) Leprecaun from Juanita Wurzburger. 18. 1) David Madison, Bruce Coleman Inc. 25. 1) Lajet Energy Company. 26. 1) The Photographic Library. 29. 1) Varin-Visage from Jacana. 2) By permission of The M.I.T. Press, Cambridge, Mass. 30. 1) Decet. 32. 1) Cameramann International, Ltd. from Marilyn Gartman. 2) E. A. James, NHPA. 33. 1) Chicago Symphony Orchestra. 34. 1) United Int. 35. 1) Wendy Stone. Press Gamma/Liaison. 37. 1) Andrew Beslev. 43. 2) Cameramann International Ltd. 3) Fastfoto. 45, 1) Jeff Simon, Bruce Coleman Ltd. 46, 2) Jerry Herman, FPG. 3) Dennis Hallinan, FPG. 55, 1) Pete Turner, DPI, 57, 1) Spectrum Colour Library. 2) Telegraph Colour Library. 3) Spectrum Colour Library. 58. 1) Gerald Cubitt/Bruce Coleman. 61. 1) William Campbell, Sygma. 2) E. S. Ross. 64. 1) Gordon Douglas. 66. 2) Marc & Evelyne Bernheim, Woodfin Camp, Inc. 67. 1) Waller Knirr. 2) Harrison Forman. 70. 1) South African Library, 2) William Fehr Collection, 3) Robert Harding Picture Library. 71. 1) William Fehr Collection. 2) Africana Museum. 72. 2) National Archives, South Africa. 76. 1) Africana Museum. 2) Africana Museum. 77. 2) Africana Museum. 78. 1) Africana Museum. 79. 1) Walter Knirr. 80. 1) Rex Features. 82. 2) South African National Gallery, Cape Town. 88. 1) Cameramann International, Ltd. from Marilyn Gartman. 2) Travelpix from FPG. 3) Shostal Associates. 92. 1) Karl Kummels. Shostal. 2) Chip & Rosa Marla Peterson. 94. 1) Chip & Rosa Maria Peterson. 2) Manley Photo from Shostal. 95. 1) Manley Photo from Shostal. 2) Chip & Rosa Maria Peterson. 96. 1) T. Alvez, FPG. 100. 1) Hubertus Kanus, Shostal. 2) Nicholas de Vore III, Bruce Coleman Inc. 102. 1) Chip & Rosa Maria Peterson, 103, 1) Augusts Upitis, Shostal, 2) Susan Malis from Marilyn Gartman. 105. 1) South Australia Tourist Board. 106. 2) Douglass Baglin. 3) Photographic Library of Australia. 107. 1) South Australian Government Tourist Bureau. 2) South Australian Government Tourist Bureau. 3) South Australian Government Tourist Bureau. 111. 1) Photographic Library of Australia. 112. 1) South Australian Government Tourist Bureau. 113. 1) South Australian Government Tourist Bureau. 115. 1) Photographic Library of Australia. 118. 1) Sefton Photo Library. 119. 1) K. Hisham, Bruce Coleman Inc. 124. 1) Peter Ward, Bruce Coleman Ltd. 128, 1) NASA, 2) U.S. Geological Survey, 129, 1) NASA. 136, 1) NASA. 2) NASA. 3) NASA. 137. 1) NASA. 138. 1) ITAR-Tass from Sovfoto. 139. 1) NASA. 2) NASA. 3) NASA. 140. 1) New York Public Library. 2) Bettmann Archive. 141. 1) Marshall Space Flight Center, NASA. 2) United Press Int. 143. 1) Jet Propulsion Laboratory. 2) Jet Propulsion Laboratory. 3) NASA. 4) Jet Propulsion Laboratory, 144, 1) Jet Propulsion Laboratory. 2) European Space Agency. 145. 1) ITAR-Tass from Sovfoto. 146, 1) RIA-Novosti from Sovfoto, 147, 1) NASA, 2) NASA, 148, 1) Novosti. 149. 1) NASA. 151. 1) NASA. 2) Wide World, 3) NASA. 152, 1) NASA. 2) NASA. 153. 1) NASA. 2) NASA. 154. 1) NASA. 2) NASA. 162. 1) Sygma. 164. 1) Zefa. 167, 2) Tony Stone Photolibrary, London. 2) Tony Stone Photolibrary, London. 170. 1) J. Messerschmidt, Bruce Coleman Inc. 171. 1) Robert Harding Picture Library. 2) Rex Features. 172. 1) Sabine Weiss, Rapho Guillumette. 2) Peter Menzel, Stock, Boston. 173. 1) J. Alex Langley, DPI. 174. 1) Michael Kuh, Rapho Guillumette. 175. 1) Adeline Haaga, Tom Stack & Assoc. 2) M. Boigne, Rapho Guillumette. 176. 1) Peter Menzel, Stock, Boston. 178. 1) J. Alex Langley, DPI. 179. 1) Photri. 2) A. Gutierreze from Carl Östman. 180. 1) J. Ciganovic from Madeline Grimaldi, 182, 1) Phillip Sheridan, Tom Stack & Assoc. 187. 1) United Press Int. 189. 1) Bettmann Archive, 200, 1) CERN/Science Photo Library. 201. 1) E. V. Breeze Jones. Bruce Coleman Inc. 204. 1) House of Commons Public Information Office. 206, 1) Alan Carey, The Image Works. 207. 1) Alan Carey, The Image Works. 210. 2) Australian News. 213. 1) J. H. Pickerell, Black Star. 214. 1) Hewitt Fund, 1911; Munsey Fund, 1936. 1938; and anonymous gift, 1951. 219. 1) Hans Pfletschinger from Peter Arnold. 2) M. A. Chappell, Animals Animals. 225, 1) John Visser/Bruce Coleman. Freider 3) Sauer/Bruce Coleman, 4) John Shaw/Bruce Coleman. 8) Carol Hughes/Bruce Coleman. 9) Jan Taylor/Bruce Coleman, 226, 1) The Ronald Grant Archive. 228.1) Bert Vogel, Shostal. 229. 1) Eric Crichton/Bruce Coleman. 2) Bavaria-Verlag. 3) Board of Selectmen, Abbot Hali, Marbiehead, Mass. 232. 1) Bridgeman Art Library, London, private collection. 234. 1) David Waselle, Journalism Services. 2) Al Grotell. 3) David Waselle, Journalism Services. 4) Al Grotell. 5) Mike Neumann, Photo Researchers. 6) David Waselle, Journalism Services. 235. 2) Al Grotell. 3) Al Grotell. 4) David Waselle. Journalism Services, 5) Al Grotell, 6) John C. Deitz, Photo Researchers. 7) David Waselle, Journalism Services. 239. 2) Charles G. Summers, Tom Stack & Assoc. 240. 1) Tom McHugh, Photo Researchers. 2) George Bilyk, LGI. 3) Ralph Hunt Williams, West Stock. 241.1) Heather Angel. 245. 1) Allsport/Don Smith. 2) Sporting Pictures. 3) Sporting Pictures. 5) Sporting Library of Australia. 246. 1) National Library of Australia. 249. 1) State Library of Victoria, 250, 1) The Mitchell Library. 251, 1) Photographic Library of Australia. 252, 1) Photographic Library of Australia. 254. 1) Frieder Sauer/Bruce Coleman. 2) Alvin E. Staffan, N.A.S. 3) Gunter Ziesler/Bruce Coleman. 255. 1) Pat and Tom Lesson, Photo Researchers. 3) E. Hanumantha Rao, NHPA, 257, 2) Travelpix from FPG. 258. 1) Robert Harding Picture

Library. 260. 1) Sefton Photo Library. 262. 1) Missy Yuhl, 2) Granger Collection, 263, 1) Thistle Y. Stead. 264, 2) Hadassah Medical Relief Association, Inc. 265. 1) Michael Habichi, EarthScenes, 266, 1) Keystone, 267, 1) Shostal. 269, 1) United Press Int. 2) United Press Int. 271, 2) Robert A. Siegel, Inc. 272. 5) Robert A. Siegel, Inc. 277, 2) Brown Bros. 3) Brown Bros. 278. 1) Biophoto Associates/Science Source. 279. 1) California Institute of Technology and Camegie Institution of Washington, from Hale Observatories. 280, 1) Minolta Corporation. 281, 1) National Optical Astronomy Observa tories, 284, 1) Hale Observatories, 285, 1) California Institute of Technology and Carnegie Institution of Washington, from Hale Observatories, 2) Lick Observatory, 287, 1) California Institute of Technology and Carnegie Institution of Washington, from Hale Observatories. 287. 2) Lick Observatory. 288. National Optical Astronomy Observatories. 289, 1) E.S.A. 294, 1) Bob & Clara Calhoun/Bruce Coleman, 2) G. Ziesler/Bruce Coleman, 3) J. P. Laub, Ardea, 295, 1) Peter Davey/Bruce Coleman, 2) Oklahoma Historical Society, 297, 1) John Merrill, 298, 1) J. Allan Cash Photolibrary. 2) National Trust. 299, 1) Sefton Photo Library, 2) By courtesy of the Marquess of Salisbury. 3) Wellington Enterprises. 300. 1) National Trust. 2) City of Cardiff. 301. 1) Skyviews Survey, Inc. 305. 1) George Goodwin, Monkmeyer. 309. 1) Bettmann Archive. 311. 1) Erwin and Peggy Bauer, Bruce Coleman Ltd. 2) Shostal. 3) Reprinted with the permission of Joanna T. Steichen (Museum of Modern Art, New York City), 312, 1) Carl Van Vechten, 2) Philippe Halsman, 313, 1) Ed Jarecki, Chicago Daily News. 3) Brown Bros. 314. 1) Gift of Seymour H. Knox, 1970. 315. 1) E. R. Degginger, 2) E. R. Degginger. 4) G. I. Bernard, NHPA. 322, 1) Brown Bros. 2) Stevenson House, Edinburgh. 323. 1) Sydney Morning Herald. 324. 1) Warner Bros. 3) Edward S. Ross. 325, 1) Dr. Frieder Sauer/Bruce Coleman, 3) Keith H. Murakami, Tom Stack & Assoc. 326, 3) The Mitchell Library, 328, 1) Hans Reinhard/Bruce Coleman. 2) Phil A. Dotson, DPI. 3) Derek Fell. 329. 1) Anthony Suau, Black Star, 330, 2) The Hutchison Library. 331. 1) Steven A. Seidman. 335. 1) H. D. Brandl, Okapia. 336. 1) Aerofilms. 2) Helen and Carleton Macy Collection, gift of Carleton Macy, 1934. 3) gift of Robert M. Jackson, 1920. 337, 1) Manfred Danegger, NHPA, 3) NASA, 338, 1) Northern Ireland Tourist Board, 339, 1) Lawrence Migdale. 340. 1) Arnold Hinton from Nancy Palmer. 341. 2) Brown Bros. 343. 1) Photograph from the Mexican Portfolio, 1967 Estate of Paul Strand (Art Institute of Chicago). 2) G. Marche, FPG. 345. 1) Ted Edwards. 346. 1) Britain on View. 347. 1) Ronald W. Weir. 348. 1) Brown Bros. 349. 1) Ewing Galloway. 350. 1) Schaal, Pix. 352. 2) AP/Wide World. 353. 1) Wide World. 354. 1) Manfred Kage, Peter Arnold. 357. 2) Blair Seitz, Photo Researchers. 360. 2) Australian News and Information Bureau, 361, 1) By courtesy of the Trustees of the Tate Gallery. 362. 1) Douglass Baglin. 363, 1) The Mitchell

Library. 364, 1) National Library of Australia 365. 1) Anthony Healy/Bruce Coleman, 366. 1) Shostal. 2) New-York Historical Society, 3) AP/Wide World. 368. 1) U.S. Navy. 2) U.S. Navy. 371. 1) U.S. Navy. 2) U.S. Navy. 3) U.S. Navy. 380. 1) Mike Yamashita, Woodfin Camp, Inc. 1) Mike Yamashita, Woodfin Camp, Inc. 2) Mike Yamashita, Woodfin Camp, Inc. 383, 1) Nedra Westwater, Black Star. 2) Marc & Evelyne Bernheim, Woodfin Camp Inc. 388, 1) Britain on View, 3) Sport and General. 389. 1) Hulton Picture Company. 390. 1) Hans & Judy Beste, Tom. Stack & Assoc. 2) John Messineo. 395. 1) Gamma/Frank Spooner Pictures, 396, 1) Camera Press. 397. 1) Courtesy of the Spertus Museum, Chicago, 398, 1) Barry Hicks, British Tourist Authority. 3) Culver Pictures. 399. 1) Louis Bunde, Unicom Stock Photos. 3) Hastings & Chivers. 403. 2) Erich Crighton/Bruce Coleman. 404. 1) Robert Harding Picture Library, 405, 1) J. Allan Cash Photolibrary. 406. 1) Gerald Cubitt/Bruce Coleman, 407, 1) University Museum, University of Pennsylvania, 2) Giraudon/Art Resource, 408, 1) Steve Terrill, 412, 2) Loren McIntyre, Woodfin Camp, Inc. 415. 1) NASA. 2) Los Alamos Scientific Laboratory, 417, 1) National Optical Astronomy Observatories. 2) W. C. Livingston, Kitt Peak National Observatory. 418. 1) Big Bear Solar Observatory. 2) Big Bear Solar Observatory. 419. 1) Sacramento Peak Observatory. 2) NASA. 420. 1) National Optical Astronomy Observatories, 422, 1) Brown Bros. 423, 1) Dieter & Mary Plage/Bruce Coleman. 2) D. G. Plage/Bruce Coleman. 424. 1) Setton Photo Library. 425. 1) Artstreet. 2) Norbert Wa/Planet Earth Picture. 3) E. R. Degginger, Bruce Coleman Inc. 426, 1) John M. Coffman, NAS. 2) National Optical Astronomy Observatories/National Solar Observatory. 431. 1) Chichester Cathedral/The Bridgeman Art Library. 432. 1) Mary Grant/Bruce Coleman. 433. 1) Surf Life-Saving Association of Australia. 3) Surf Life-Saving Association of Australia. 434. 1) Photographic Library of Australia. 436. 1) Peter Simons. 437. 1) Terry Wild. 440. 1) Heather Angel. 2) Frank Fournier, Contact from Woodfin Camp, Inc. 442. 1) Ella Gallup Sumner and Mary Catlin Sumner Collection. 443. 1) AA Picture Library. 444. 1) Nick Nicholson. 445. 1) Nick Nicholson, 446. 1) Charles Bruning Co. 447. 1) Britain on View. 448. 2) Spectrum Colour Library. 449. 1) J. Allan Cash Photolibrary. 450. 1) Diane Pearce. 451. 2) Wide World. 452. 1) Paul Popper. 453. 1) Peter 1) Don 454. Alden/Ardea, London. Hadden/Ardea, London. 456. 2) Hulton Deutsch Collection. 458. 1) Shostal. 459. 1) Brown Bros. 460, 1) W. Ferchland, ZEFA. 461. 1) Damm, ZEFA. 2) Damm, ZEFA. 464. 1) Eric A. Wessman. 465. 1) Mohn, ZEFA. 2) Klingwalls. 466. 1) Leif R. Jansson, Svenskt Pressfoto. 2) Eric A. Wessman. 3) Swedish Tourist Board. 467. 1) Royal Dramatic Theater, Stockholm. 469. 1) J. Pfaff, ZEFA. 471. 1) Gunnar Lundmark, Svenskt Pressfoto. 472. 1) Douglas Mesney, The Stock Market. 473. 1) Ronald Sheridan. 2) The Royal

Collections. 476. 1) Sally Anne Thompson/Animal Photography, 3) Eric Crichton/Bruce Coleman, 4) Giuseppe Mazza, 477, 1) Jane Burton/Bruce Coleman, 478, 1) Giuseppe Mazza. 480. 1) Steve Maslowski, Photo Researchers. 2) Terry L. Hibbitts. 3) Stephen Dalton, Photo Researchers. 481, 2) Newberry Library, Chicago. 482. 1) Culver. 483, 1) Maurice Schulman, U.S. Olympic Committee. 2) Lee Pillsbury, Swimming World. 487. 2) Team stunt performed by the Santa Clara (Calif.) Aquamaids; Lee Pillsbury, Swimming World. 489. 1) Allsport/Tony Duffy. 490, 2) Runk/Schoenberger, Grant Heilman. 491. 1) EPA from Pictorial Parade. 495. 1) Swiss National Tourist Office. 2) Paolo Koch, Photo Researchers, 497, 1) EPA from Pictorial Parade, 498, 1) Alan Band Associates, 499, 1) Michael Yamashita, Woodfin Camp, Inc. 2) Marche, FPG, 503, 2) J. L. Jenkins, 3) P. Morris/Ardea, London. 504. 1) Wildlife Matters. 505. 1) Douglass Baglin. 2) Photographic Library of Australia. 506. 1) Tony Stone Photo Library, London. 2) Spectrum Colour Library. 3) Spectrum Colour Library. 507, 1) Tony Stone Photolibrary, London. 2) Spectrum Colour Library, 3) Spectrum Colour Library, 509, 2) Richard Desgrand, 512, 1) Mitchell Library, 513, 1) Mitchell Library, 514. 1) Douglass Baglin, 518, 1) Roland Corp. 520. 1) Shostal. 521. 1) Björn Klingwall. 523. 1) John Launois, Black Star. 524. 1) Odile Wertheimer, AAA Photo, 2) John Launois, Black Star.

3. 1) David R. Frazier. 5. 1) Carneramann International, 2) Jane Burton, Bruce Coleman Inc. 3) Richard Lewington, The Garden Studio, London. 6. 1) Artstreet. 2) United Press Int. 8. 1) Bruce Berg. 9. 1) G. R. Roberts. 10. 2) Dallas and John Heaton, Click/Chicago. 11. 1) Photri from Marilyn Gartman, 12, 1) Michael K. Nichols, Magnum. 14. 1) Naoli Duguid, Asia Access. 15. 1) Zoological Society of San Diego. 16. 1) International Museum of Photography at George Eastman House, 2) Martha Swope, 17. 1) Wildlife Matters. 18. 1) San Diego Zoo. 20. 1) Hutchison Library. 21. 1) J. Allan Cash Photolibrary. 22. 1) Spectrum Colour Library. 23. 1) Spectrum Colour Library. 25. 1) Ron Austing. 26. 2) Snite Museum of Art, University of Notre Dame, Gift of Mr. and Mrs. Lester Wolfe. 29. 1) National Library of Australia. 2) E. R. Degginger. 31. 1) Honkanen, H. Armstrong Roberts from ZEFA. 32. 1) Flag Research Center. 2) Bernard Pierre Wolff, Photo Researchers. 34. 1) E. R. Degginger, 35, 1) Kim Naylor, Aspect Picture Library Ltd. 36. 1) Kim Naylor, Aspect Picture Library Ltd. 38. 1) Panasonic. 3) JVC Company of America. 40. 1) SCALA from Art Resource, 41, 1) Gift of John D. Rockefeller, Jr., The Cloisters Collection, 1937. 42. 1) Warren Garst, Tom Stack & Assoc. 43. 1) Spectrum Colour Library. 46. 1) Huston, Pix. 2) Mansell Collection. 47. 1) M. P. L. Fogden, Bruce Coleman Ltd. 48. 2) John Blomfield. 51. 1) Don Stephens. 2) Hydro Electric Commission/Spectrum Colour Library. 52. 2) Don Stephens, Australian Information Service. 3) Don Stephens. 53, 1) Don Stephens, 54, 1) Don Stephens, 56, 1) Adapted form Regional Landscapes of Australia, 1971 Nancy and Andrew Learmonth, courtesy Angus and Robertson Pty. Ltd. 57. 1) Don Stephens. 2) Don Stephens. 3) Don Stephens. 4) Don Stephens. 5) Don Stephens. 58, 1) Don Stephens. 60, 1) Don Stephens. 2) Don Stephens. 61, 1) Douglass Baglin. 63, 1) Queen Victoria Museum and Art Gallery. 65. 1) Fritz Prenzel. 2) David Fleay. 67. 1) Robert Harding Picture Library. 2) Hutchison Library. 68. 1) Taunton Cider Company, 2) Photobank, 3) Royal Astronomical Society Library, 71, 1) Field Museum of Natural History, Chicago (Taxidermy by Paul O. Brunsvold; photography by Ron Testa and Diane Alexander White). 72. 2) Robert D. Terry, M.D., Albert Einstein College of Medicine, Journal of Neuropathology and Experimental Neurology. 73, 1) Fulvio Eccardi, Bruce Coleman Inc. 74. 1) Dundee University, 75, 1) Scottish Tourist Board. 76, 1) Brown Bros. 77, 1) Lyric Opera of Chicago. 2) The Mitchell Library. 3) Alexander Tumbull Library. 78. 1) Tea Council of the U.S.A., Inc. 3) Shostal. 80. 1) Leonard Lee Rue/Bruce Coleman. 81. 2) Hulton Deutsch Collection. 82. 1) Rich Franzon. Artstreet, 83. 1) Tinken Company, Canton, Ohio, 84, 1) Tom Braise, The Stock Market. 2) Benyas-Kaufman, Black Star. 85. 1) Grant Heilman. 3) RCA. 87. 1) E. R. Degginger. 2) John C. Evans. 88. 1) E. R. Degginger. 89. 1) Granger Collection. 2) Spectrum Colour Library. 98. 1) Marge Kathan. 100. 1) Richard Dunoff, The Stock Market, 101, 1) David R. Frazier. 102, 1) Bradley Smith. 2) Granger Collection. 3) Hulton Deutsch Collection. 104. 1) Natural History Museum. 2) Hulton Deutsch Collection, 105, 1) AT&T, 2) Jon Feingersh, The Stock Market, 3) Tony Freeman, Photo Edit. 110. 1) AT&T. 112. 1) John Bora, Photo Researchers. 2) Roger Bessmeyer, Starlight. 3) NASA. 116. 1) E-Systems. 2) Dan McCoy, Rainbow. 117. 1) NASA. 2) Roger Ressmeyer, Starlight. 118. 1) 'Sesame Street'; Children's Television Workshop. 2) Olympic Games; Eiji Miyazawa, Black Star. 4) 'Wheel of Fortune' (Merv Griffin Enterprises). 119. 1) Astronaut Aldrin reaches the moon (NASA). 2) "The Cosby Show" (Shooting Star). 3) "General Hospital" (Capital Cities/ABC, Inc.). 126. 1) Channel 7. 133. 1) Zenith Electronics Corporation. 134. 1) RCA. 2) UPI/Bettmann Newsphotos, 3) D. Fineman, Sygma, 136, 1) Detail of a woodcut (Granger Collection). 138. 1) Milt and Joan Mann. 141. 1) David R. Frazier, 2) Macmillan & Co., Ltd.; Hulton Deutsch Collection. 142. 1) Russ Adams Productions. 147. 1) United Press Int. 2) Chicago Sun-Times. 148. 1) United Press Int. 2) United Press Int. 149. 1) Focus on Sports. 2) Focus on Sports. 3) Focus on Sports. 4) Jacques M. Chenet, Woodfin Camp, Inc. 5) Bob Martin, Allsport. 6) Bob Martin, Allsport. 153. 1) Edward S. Ross. 154. 1) PDC. 155. 1) Wide World. 2) Sovfoto. 156. 1) Giuseppe Mazza. 2) A. Kerneis-Dragesco, Jacana. 158.

1) S. C. Bisserot, Bruce Coleman Ltd. 160. 1) Piers Cavendish/Impact. 2) Aquarius Library. 165. 1) Zig Leszczynski, Animals Animals. 167. 1) Walter Frerck, Odyssey Productions. 171. 3) Larry Day. 172. 1) Burlington Industries, Inc. 173. 1) Society for Visual Education Inc. (Burt Munk Productions). 2) Burlington Industries, Inc. 3) J. Alex Langley, DPI. 4) J. P. Stevens & Co., Inc. 174. 1) Burlington Industries, Inc. 2) Burlington Industries, Inc. 175. 1) Ferenc Berko, DPI. 176. 1) Culver. 177. 1) Popperfoto. 2) Mary Evans Picture Library. 178. 1) Rus Arnold. 179. 2) Maurice G. G. Harvey, Hutchison Library Ltd. 181. 1) Saul Lockhardt, Advertasia Co., Ltd. 2) Horst Gossler, The Stock House. 183. 1) Chinteik Electronic Industries C. Ltd. 2) Charles Marden Fitch. 186. 1) J. Allan Cash Photolibrary. 2) Roger Markham-Smith, Vision Impact. 187. 2) Martha Swope. 188. 1) Press Association. 2) Rex Features. 190. 1) Robert C. Ragsdale. 201. 1) Martha Swope. 2) Martha Swope. 3) Martha Swope. 4) Martha Swope. 5) Martha Swope. 202, 1) State Library of Victoria. 2) Sydney Theatre Company. 202. 1) David Cooper. 203. 1) Lisa Ebright. 2) Martha Swope, 204, 2) Joan Marcus, 206, 1) State Library of Victoria. 2) Sydney Theatre Company. 207. 1) National Theatre production of The Secret Rapture. Donald Cooper, Photostage. 2) City of Birmingham. 208.2) National Theatre of Norway. 211. 1) Robert Harding Picture Library. 212. 1) 1982 Walt Disney Productions. 213. 1) The Mitchell Library. 215. 1) Howard Sochurek. 222. 2) Atlantic-Little, Brown & Co. 225. 1) Thoreau Society, Inc. 2) Marmel Studios from FPG. 226. 1) Walter Bird. 227. 1) United Press Int. 2) Four by Five. 228. 1) Sandy Sprunt, Photo Researchers. 230. 1) Historical Pictures Service, Chicago. 233. 1) Mitchell Library. 237. 1) Hutchison Library. 238. 1) Tibetan Spaniel Club of America, Inc. 2) Louise Van der Meid, T.F.H. Publications. 239, 1) R. A. Mendez, Animals Animals. 2) Kim Taylor, Bruce Coleman Ltd. 242. 1) E. R. Degginger. 2) E. R. Degginger. 244. 1) Ylla, Rapho Guillumette. 245. 1) Marc & Evelyne Bernheim, Rapho Guillumette. 246. 1) Australian Picture Library. 2) Australian Picture Library. 248. 1) Mansell. 249. 1) Weyerhaeuser Co. 250. 1) Weyerhaeuser Company, 252, 1) John Blaustein, Woodfin Camp Inc. 2) William Hubbell, Woodfin Camp Inc. 253. 1) Douglass Baglin. 259. 1) Cameramann International Ltd. 261. 1) Fionnbar Callanan. 262. 1) Fionnbar Callanan. 2) Bord Fáilte Éireann. 264. 1) P. Clement/Bruce Coleman. 266. 1) Micheal Dick, Animals Animals. 2) Frick Collection, New York City. 268. 1) S. C. Bisserot, Bruce Coleman Inc. 2) Runk/Schoenberger from Grant Heilman. 270. 2) Charles Gupton, Southern Light. 271. 2) Charles Gupton. Southern Light. 272. 1) Bruce M. Wellman, Stock, Boston, 274, 1) SCALA/Art Resource. 275. 1) G. Boutin, Explorer, 2) Silvio Fiore, Shostal. 276. 1) United Press Int. 278. 1) Spectrum Colour Library. 2) Tony Stone Photolibrary. 279. 1) Spectrum Colour Library.

2) J. Allan Cash Photolibrary. 3) Spectrum Colour Library. 282. 1) Sven Samelius from Carl Östman. 2) Elji Miyazawa, Black Star. 283. 1) Toshio Watanabe, DPI. 2) Minoru Aoki, Rapho Guillumette. 284. 1) Milt and Joan Mann, 2) Milt and Joan Mann, 286, 1) Norma Morrison, 289, 1) AP/Wide World, 290, 1) Craig Kersten. 291. 3) Grant Heilman. 293. 1) Gift of Mrs. John D. Rockefeller III. 2) Paul Popper. 295. 1) C. D'Hotel, Explorer. 298. 1) Douglass Baglin, 2) Peter Gonzalez, 300, 2) Wales Tourist Board. 301. 1) Howard Bluestein, Photo Researchers. 2) George M. Cassidy, Shostal. 302. 1) E. Beldowski, Canapress. 305, 2) National Library of Australia, 307, 1) Erwin and Peggy Bauer. Bruce Coleman Ltd. 2) Udo Hirsch, Bruce Coleman Ltd. 308. 1) Wide World. 2) Government of British Columbia, 310, 1) Colorific. 311. 1) Anthony Mercieca, NAS. 313. 1) Consulate of Haiti. 315. 1) National Portrait Gallery, 2) Bettmann Archive, 317, 1) Philadelphia City Planning Commission. 2) John McGrail. 318. 1) Adapted from The Urban Pattern by Arthur B. Gallion and Simon Eisner, copyright 1950, 1963, by Litton Educational Publishing, Inc., by permission of Van Nostrand Reinhold Company. 321. 1) Paul Robert Perry. 322. 1) G. R. Richardson, Taurus. 323, 1) Case IH. 324, 1) J I Case, 2) United Press Int. 325. 1) Marc Bernheim, Woodfin Camp, Inc. 2) E. R. Degginger. 3) Robert Frerck, Woodfin Camp, Inc. 328. 1) Stefano Cagnoni/IFL. 333, 1) Townsend P. Dickinson, Photo Researchers. 336. 1) Barnaby's Picture Library, 337, 1) Freedom Sports Ltd. 341. 1) David R. Frazier, 342, 1) Hutchison Library, 346. 1) Pete Saloutos, The Stock Market. 347. 1) Photri. 2) Boeing Marine Systems. 3) Steve McCutcheon. 4) Photri. 348. 1) Jean-Claude Lejeune. 2) Edward S. Ross. 3) Robert Frerck, Dimensions. 357, 1) B. Kliewe, ICON, 2) Milt and Joan Mann. 3) Jack Novak, Photri. 358. 1) British Airways, 359, 1) Steve McCutcheon. 2) John Launois, Black Star. 3) Milt & Joan Mann. 4) Robert Harding Picture Library. 361. 1) Orion Press. 2) West Virginia University. 364. 4) Walter Knirr. 366. 2) Mark Sherman, Bruce Coleman Inc. 369. 1) Granger Collection. 371. 1) David Muench. 372. 1) Theodore F. Welch, Van Cleve Photography. 373. 1) E. R. Degginger. 374. 1) Jeff Carter. 376, 2) Josef Muench, 381, 1) Toni Schneiders, Bruce Coleman, Ltd. 382, 1) Norman Meyers, Bruce Coleman Inc. 383, 1) Toni Schneiders, Bruce Coleman, Ltd. 392. 2) Tom McHugh, Photo Researchers. 403. 1) W. H. Hode from Peter Arnold. 414. 1) Alan Band Associates. 415. 2) Loren McIntyre, Woodfin Camp, Inc. 417. 1) Britain on View. 418. 1) United Press Int. 2) United States Trotting Association. 420. 1) Bill Noel Kleeman, Tom Stack & Assoc. 2) Treat Davidson, NAS. 421. 1) Lauros, Giraudon. 3) Peter Loud, Robert Harding Picture Library. 426. 1) Sport & General. 2) Mitchell Library. 429. 1) Chicago Historical Society. 430. 1) David M. Phillips, Taurus. 431. 1) Marc & Evelyne Bernheim. Woodfin Camp, Inc. 2) Zig Leszczysnki, Animals Animals. 434. 1) John R.

Damauskas, M.D. 435, 1) Wide World, 2) Library of Congress. 437, 1) Derek Fell. 2) Yeager and Kay, Photo Researchers, 439, 1) Animals Animals, Robert Meyer, 440, 2) SCALA/Art Resource, 442, 1) Kurt Scholz, Shostal, 443, 1) B. Regent, Hutchison Library. 444, 2) Q.A. Photos. 446, 1) Heather Angel. 2) Alon Reininger, Contact from Woodfin Camp, Inc. 3) Marc & Evelvne Bernheim, Woodfin Camp, Inc. 4) George Holton, Photo Researchers. 5) Craig Aurness, Woodfin Camp, Inc. 6) Robert Frerck, Woodfin Camp. Inc. 447. 1) E. R. Degginger. 448. 1) L. S. Stepanowicz, Bruce Coleman Inc. 451, 1) Lowell Georgia, Photo Researchers, 2) E. R. Degginger, 452, 2) Brown Bros. 453, 1) Roland and Sabrina Michaud, Woodfin Camp. Inc. 454, 1) Ara Guler. 455, 1) Ara Guler. 457. 1) LeRoy Woodson, 2) John Nicolais, Woodfin Camp. Inc. 458, 1) David Bellak, Jeroboam. 2) Owen Franken, Stock, Boston. 460. 1) lan Berry, Magnum. 461. 2) Malcolm S. Kirk from Peter Arnold. 462. 1) Ian Berry, Magnum. 463. 1) Bettmann Archive. 464. 1) United Press Int. 468. 2) Shepard Sherbill, SABA. 472. 1) Bruce Coleman. 2) David Hughes/Bruce Coleman. 473. 1) E. R. Degginger. 2) William M. Stephens, Tom Stack & Associates, 474, 1) E. R. Degginger. 2) Jim Tesson. E. R. Degginger. 3) E. R. Degginger. 476. 1) E. R. Degginger. 477. 1) Robert Harding Associates, 2) Ronald Sheridan, 3) Lee Boltin. 4) Lee Boltin. 5) A. Tannenbaum, Sygma. 478. 1) Cameramann International Ltd. from Marilyn Gartman. 479. 1) Mark Twain Memorial. 484. 2) David R. Frazier. 486, 2) Ted Nielsen. 3) Ted Nielsen. 488. 1) Jeffrey Sylvester, FPG. 2) NASA. 492, 1) Bruce Coleman Ltd. 493. 1) Fionnbar Callanan, 2) Fionnbar Callanan, 494, 1) Fionnbar Callanan. 2) Northern Ireland Tourist Board. 3) AP/Wide World

U-V

3. 2) Shostal. 4. 1) Leonard Lee Rue III, 5, 1) Havlicek, Zefa. 8. 1) Peter Turnley, Black Star. 9. 1) Natalie Sluzar. 2) Natalie Sluzar. 3) Shone, Gamma/Liaison, 11, 1) ITAR-Tass from Sovioto, 13, 1) Robert Harbison, <c> 1992 The Christian Science Monitor. 14. 1) Paul Robert Perry. 16. 1) Northern Ireland Tourist Board. 18. 2) Peter Arnold, Ellis Herwig, Taurus. 26. 1) Carolyn Watson, UNICEF. 3) Schwinn Bicycle Company. 27. 1) Crown Copyright, reproduced with the permission of the Controller of Her Majesty's Stationery Office. 28. 1) Novosti from Sovfoto. 1) Rudi Frey, *Time* Magazine. 32. 1)
 AP/Wide World. 34. 1) Sovfoto. 40. 1) Bruce McAllister, Uniphoto. 2) Jill Brown, Shostal. 42. 1) Robert Harding Picture Library. 43. 1) Fionnbar Callanan. 2) Spectrum Colour Library. 3) Robert Harding Picture Library. 4) Robert Harding Picture Library. 45. 2) Robert Harding Picture Library. 50. 1) DPI. 51, 1) Robert Harding Picture Library. 53. 1) Sally & Richard Greenhill. 2) Yorkshire & Humberside Tourist Board. 54. 2) Fritz Henle, Photo Researchers. 55. 1) Wales Tourist Board. 56. 1) Fred Bond, Publix. 2) Northern Ireland

Tourist Board. 59. 1) Robert Harding Picture Library, 60, 1) Imperial Chemical Industries. 66. 1) Courtesy of Public Relations, Royal Navy. 2) Ministry of Defence. 67. 4) Ministry of Defence (RAF). 68. 1) Ministry of Defence (RAF). 69. 1) Ministry of Defence. 70. 1) Crown Copyright. 2) Crown Copyright. 72, 2) Royal Air Force. 3) Royal Air Force. 73, 1) Courtesy of Public Relations, Royal Naw, 74. 3) Crown Copyright, 75, 1) Courtesy of Public Relations, Royal Marines. 78. 2) Crown copyright Courtesy of the Ministry of Defence (Navy). 79. 1) Mansell. 82. 1) By courtesy of the Trustees, the National Gallery, London. 84. 5) Courtesy of His Grace the Duke of Buccleuch, 85, 1) John L. Severance Collection, 1936. 2) By courtesy of the Trustees of the Tate Gallery, 4) Courtesy Lady Ashcombe. 89. 1) Time Magazine 1965 Time, Inc. 2) Simply Creative. 90. 1) Chris Christodoulou. 91. 1) Clive Barda. 92. 1) Dance Library/Darryl Williams. 93. 1) Catherine Ashmore/National Theatre. 94. 1) John Walmsley. 2) John Walmsley. 95. 1) Sally & Richard Greenhill, 96, 1) John Walmsley, 97, 1) Sally & Richard Greenhill. 98. 1) John Walmsley. 99. 1) Scottish Tourist Board, 100, 1) John Walmsley, 103, 1) Rex Features/Nils Jorgensen. 104. 1) British Geological Survey. 2) British Geologi cal Survey. 106. 1) J. Allan Cash Photolibrary. 107. 2) Celtic Picture Agency/M. J. Thomas. 3) Alban Pictures. 108. 1) British Geological Survey. 2) British Geological Survey. 109. 1) J. Alian Cash Photolibrary. 111. 1) Rex Features, 112, 2) Crown Copyright, 114, 1) David Richardson. 117. 1) House of Commons Public Relations Office. 122. 1) Katalin Arkell/Network. 2) Sefton Photo Library, 123, 1) National Portrait Gallery, 124. 1) By permission of the Master and Fellows, Magdalene College, Cambridge. 2) Jayne Fincher/Photographers International. 125. 1) Britain on View. 133. 1) Mary Evans Picture Library, 134, 1) Mary Evans Picture Library, 2) Mary Evans Picture Library, 135, 1) Mary Evans Picture Library. 136. 1) Mary Evans Picture Library. 137. 1) Mary Evans Picture Library. 139. 1) Mary Evans Picture Library. 140. 1) Mary Evans Picture Library. 2) Mary Evans Picture Library. 142. 1) Mary Evans Picture Library. 144. 1) Britain on View. 2) E.T. Archive. 148. 1) Hulton Deutsch Collection. 149. 1) Mary Evans Picture Library. 150. 1) Mary Evans Picture Library. 158. 1) J. Allan Cash Photolibrary. 159, 1) British Museum. 164, 1) Superstock. 2) Frank Wen, Shostal. 169. 1) United Nations. 170. 1) Shostal. 171. 1) United Nations. 172, 1) C. Watson, UNICEF. 173. 1) United Nations. 182. 1) Andy Levin, Black Star. 2) George Hall. 3) Milt & Joan Mann. 183. 1) Michael Philip Manheim. 2) Tom Pantages. 3) Shrout & Shrout. 185. 1) Tony Stone Photolibrary, London. 2) Gary Irving/Tony Stone Worldwide. 3) Telegraph Colour Library. 190. 1) John Running, Black Star. 195. 2) Ricki Rosen, Picture Group. 196. 1) Tony Kelly. 2) John Running. 197. 1) Alex S. MacLean, Landslides. 198. 1) John Launois, Black Star. 199. 2) Ken Firestone. 200. 1) Archie Lieberman. 201. 2) Bill Grimes, Black

Star 202, 3) Heye Foundation. 203, 1) Private collection, 2) Everett C. Johnson, Lensman. 4) Western Pennsylvania Conservancy. 204. 1) Ramsey Archive. 2) Donnie Beauchamp Oprviand, U.S.A. 3) 1937 Walt Disney Productions, 4) Sean Shaver, 5) Copyright Universal Pictures, division of Universal City Studios, Inc. Courtesy of MCA Publishing Rights, division of MC Inc. 205. 1) Martha Swope. 3) Eileen Darby. 206. 1) Norman Prince. 2) David Muench. 207. 1) Michael S. Crummett, Black Star. 2) Robyn Horn, Arkansas Department of Parks and Tourism. 211. 1) Jerry Howard, Stock, Boston. 212. 1) David Muench. 2) David Muench. 3) Steve McCutcheon. 214. 1) Milt & Joan Mann. 215. 1) John Running, Stock, Boston. 217.1) Boeing Corporation, 2) Milt & Joan Mann. 218, 1) Boeing. 2) Milt & Joan Mann. 219, 1) Collier/Condit, Stock, Boston. 220, 1) James R. Holland, Stock, Boston. 229. 4) Stacy Pick, Lensman. 234. 1) Kennedy Galleries Inc., New York City. 2) Walters Art Gallery. 3) West Point Museum. 235. 2) Brown Bros. 3) NASA. 237. 1) Kevin L. Martin. 238. 2) Arents Collection. 252. 1) Gift of Lyman G. Bloomingdale, 1901, 255. 1) Culver. 256. 1) United Press Int. 258, 1) Brown Bros. 259, 1) Wide World, 260, 1) United Press Int. 261, 1) NASA. 262. 1) Wide World. 263. 1) Lehtkuva, Photoreporters. 266. 1) University of Dublin. 267. 1) Hutchison Library. 268. 1) University of Dublin, 2) University of Birmingham, 269, 1) Sefton Photo Library, 271, 1) Jill Krementz. 273. 1) Shelly Katz, Black Star. 2) Westinghouse Electric Corporation. 3) The Anaconda Company. 277. 1) Jet Propulsion Laboratory, 279, 1) Peter Menzel, 280, 1) David Mangurian. 282, 1) Luis Villota, The Stock Market. 2) Enrique Shore, Woodfin Camp. Inc. 283, 1) David Mangurian. 284, 1) Yoram Lehmann from Peter Amold. 285. 1) Björn Bölstad from Peter Arnold. 288, 1) Delavan Smith Fund. 289. 1) Roderick Johnson, Images of India. 290. 2) Pat Bahree. 291, 1) Robert Harding Picture Library, 292, 1) Pat Bahree, 298, 2) David R. Frazier, 301, 1) Hallmark Historical Collection; Hailmark Cards. 302, 1) Wide World. 303, 1) Spectrum Colour Library. 305. 1) Stephen Dalton, Photo Researchers. 306. 1) First Image Production Ltd. 307, 1) Brown Bros. 308, 1) Massachusetts Institute of Technology. 309. 1) Art Resource, 310, 1) The Jules S. Bache Collection. 311. 1) Kunst-Dias Blauel. 2) Collection of Maurice Wertheim. 312. 1) Benjamin H. Kaestner, McCormick & Co., Inc. 2) Benjamin H. Kaestner, McCormick & Co., Inc. 313. 2) Vanuatu Tourist Information Bureau, 314, 1) J. Allan Cash Photolibrary. 317. 1) Albert Moldvay, Photographic Society International. 321. 1) Spectrum Colour Library, 326, 1) Kitty Kohout, Root Resources. 335, 1) Bruno Pellegrini, Publifoto. 337, 1) Bullaty/Lameo, Rapho Guillumette. 340, 1) NASA. 343. 1) Runk/Schoenberger, Grant Heilman, 346, 1) Frick Collection, New York City. 347, 1) Paul O. Boisvert. 2) Brown Bros. 348. 1) Alain Perceval, Photographic Aerienne. 352. 1) Jonathan Blair, Woodfin 1) Cameramann Camp. Inc. 355.

International, Ltd. 2) Cary Wolinsky, Stock, Boston, 4) David R. Frazier, 353, 1) Ardea. London, 356, 1) Bettmenn Archive, 357 1) Photographic Library of Australia, 358, 4) Photographic Library of Australia. 361. 1) Photographic Library of Australia. 360. 1) Photographic Library of Australia. 2) Alan Foley, 4) Photographic Library of Australia. 363. 1) Alan Foley. 364 1) Douglass Baglin. 2) State Electricity Commission of Victoria. 364. 1) Esso. 366. 1) Obton Galleries. 2) Dixon Galleries, 367, 1) Eric Neurath, Stock, Boston, 2) Leonard Lee Rue II. 370, 1) George Hall, Woodfin Camp, Inc. 372. 1) Joachim Messerschmidt, Bruce Coleman Inc. 373. 1) Wentzel Fischer, F.P.G. 374. 1) James Pickerell, Black Star. 376, 1) James Pickerell, Black Star. 377, 1) Paul J. Quirico. 378, 1) F.P.G. 384, 1) UPI/Bettmann Newsphotos. 2) AP/Wide World, 385, 1) Philip James Griffiths, Magnum, 386, 1) Douglas Dickens, 388, 2) Knudsens Fotocenter. 3) Michael Holford Michael Holford 4) Photographs. 389. 1) Universitetets Photographs. Oldsaksamiing, Oslo, Norway. 393. 1) United Press Int. 396. 1) Tim Graham. 400. 2) William S. Paton/Bruce Coleman. 403. 1) John S. Marshall, 2) Wendell Metzen, Bruce Coleman Inc. 404. 2) Michael P. Gadomski, Earth Sciences. 405. 1) Royal Astronomical Society Library, 407, 2) Alfred Pasieka, Taurus. 3) ONRI/Science Photo Library. 4) Science Photo Library from Photo Researchers. 409. 1) Larry Stepanowicz, Panographics, 2) Gift of Mr. and Mrs. Robert Andrew Brown. 416. 1) Dr. Harold Simon, Tom Stack & Associates. 2) Robert Goodman, Black Star. 418, 1) Gordon A. Macdonald, Hawaii Institute of Geophysics. 2) Gordon A. Macdonald, Hawaii Institute of Geophysics. 3) Tom Nebbia, Click/Chicago. 420. 1) Sigurgeir Jönasson. 421. 1) Rod Planck, Tom Stack & Assoc. 423. 1) Tony Duffy, All-Sport. 425. 1) NASA. 426. 1) Wide World, 2) R. Rowan, FPG. 429. 1) Norman Myers.

W-X-Y-Z

2. 1) Historical Picture Service. 4. 1) Giraudon. 2) Brown Bros. 3) Brown Bros. 4) Brown Bros. 6. 1) Douglass Baglin. 8. 1) The Mitchell Library. 16. 1) Welsh Tourist Board. 18. 1) National Library of Wales. 20. 1) Mary Evans Picture Library. 22. 1) B. Bisson, Sygma. 23. 1) Photographic Library of Australia, 25, 1) RCA, 28, 1) Kent and Donna Dannen, Photo Researchers. 27. 1) Oxford Scientific Films from Earth Scenes. 2) Debbie Dean, 3) Grant Heilman, 28, 2) Leonard Lee Rue III, Tom Stack & Assoc. 30. 1) Anthony Bannister. 2) New York State Museum. 31. 1) Gift of Robert Lehman, 1960, 32, 1) Michael Ederegger from Peter Amold. 34. 1) Robert Hunt Library/Imperial War Museum. 42, 1) Horst Cerni, Shostat. 43. 1) U.S. Navy. 47. 1) Katherine M. Ozanich, M.D. 2) Leonard Lee Flue III, Tom Stack & Assoc. 48. 1) Warwick Castle. 50. 1) Rugby Cement. 2) AA Picture Library, 53, 1) Robert H. Glaze, Artstreet, 54. 1) Spectrum Colour Library. 2) Ace Photo Agency. 3) Tony Stone Photo Library, London. 4) Tony Stone Photo Library, London, 55, 1) Tony Stone Photo Library, London. 2) Tony Stone Photo Library, London. 4) Tony Stone Photo Library, London. 3) Spectrum Colour Library. 57. 1) Dean Brown from Nancy Palmer. 2) Robert H. Glaze, Artstreet. 3) Milt & Joan Mann. 58, 1) Robert H. Glaze, Artstreet. 59, 1) Paul S. Conklin, 60, 1) Cameramann International Ltd. 61, 1) National Portrait Gallery, Smithsonian Institution & Museum of Fine Arts, Boston. 64. 1) Robert L, Dunne, Bruce Coleman Inc. 2) Robert L. Dunne, Bruce Coleman Inc. 68. 1) Cameramann International, from Marilyn Gartman, 2) Frederick Figall from Artstreet. 3) Robert Frerck, Woodfin Camp, Inc. 69. 1) Emil Schulthess, Black Star. 2) Alexander Lowrey, Photo Researchers, 3) Bureau of Reclamation. 71. 3) Robert P. Carr, Bruce Coleman Inc. 5) Jones & Laughlin Steel Corporation, 6) George Hall, Woodfin Camp, Inc. 75, 2) Artstreet, 3) Artstreet, 4) Photri from Marilyn Gartman, 5) AP/Wide World, 77, 1) Artstreet. 78, 2) Sally Wayland. 84, 2) L. R. Dawson, Bruce Coleman Ltd. 85. 2) Hans Reinhard/Bruce Coleman, 86. 1) Eric Grave, PhotoResearchers. 2) Agricultural Research Service, USDA. 3) John L. Tveten. 87. 1) Badger Meter, Inc. 88. 1) Greenpeace/Gremo. 90. 1) Geoff Doré/Bruce Coleman. 91. 1) Jenny Cooke, Sports Illustrated, Time Inc. 92. 1) Pierre Kopp, West Light. 2) E. R. Degginger. 93. 1) Trini Jacobs/Bruce Coleman. 94. 1) Mark Boulton, Bruce Coleman Inc. 3) Ron Manley, Shostal. 4) George de Steinhell, Shostal. 95. 1) Gerald Cubitt, Bruce Coleman. 96. 1) Fionnbar Callanan. 97. 1) Fionnbar Callanan. 100. 1) Alfredo Valente. 2) Chesher, Photo Researchers. 102. 3) Simpson Electric Company, 106, 1) Hans Reinhard/Bruce Coleman, 107, 1) Jack Wilburn, Animals Animals. 2) Ken Carmichael, Animals Animals. 108. 1) Henry Francis du Pont Winterthur Museum. 2) Warner Bros. Inc. 109.1) Bob and Clara Calhoun, Bruce Coleman Ltd. 119. 1) Gary Brettnacher, WestStock. 114. 1) Frank Lane Picture Agency. 117. 2) E. R. Degginger, Earth Scenes. 3) Frank Lane Picture Agency, 5) E. R. Degginger, Earth Scenes. 119, 1) Milt and Joan Mann. 2) Emil Schulthess, Black Star. 120, 1) National Oceanic and Atmospheric Administration, 2) B.B.C. 121.1) Milt and Joan Mann. 123, 1) Shostai. 124, 1) Arthur Gloor, Animals Animals. 2) Peter Gonzales. 3) Peter Gonzales. 4) Peter Gonzales. 125.1) Marge Kathan, 126, 2) Burlington Industries, Inc. 128. 1) City of Boston Art Commission. 129.1) Brown Bros. 130, 1) Dwight M. Beeson, the Wedgwood Society of New York. 2) Godden of Worthing, 132, 1) Peter Scoones, Planet Earth Pictures. 2) Stone/Deebie/Survival Anglia, 135, 1) Douglas Kirkland, Sygma, 142. 1) Wide World, 143, 1) Phil Degginger, 145, 2) United Press Int. 146. 1) Chris Gilbert. 2) G. R. Roberts, 147, 1) Ewing Galloway, 2) Culver, 150, 1) Welsh Tourist Board, 151, 1) Diane Pearce, 152, 1) Michael Fogden, Bruce Coleman Inc. 154. 1) Tom Blau. 158. 1) Hutchison Library. 159. 1) Gerald Cubitt/Bruce Coleman. 160. 1) Gerald Cubitt, Bruce Coleman Inc.

161. 1) Neyla Freeman/Bruce Coleman. 161,2,Robert Harding Picture Library. 165. 1) Spence McConnell, Bruce Coleman Inc. 2) M. Timothy O'Keefe, Bruce Coleman Inc.

168. 1) Nicholas Devore III, Bruce Coleman Inc. 170, 1) Fred Ward, Black Star. 174, 2) West Virginia University. 176. 4) Photographic Library of Australia, 5) P.L.A. 177, 1) Kingsley Watson. 181. 1) Photographic Library of Australia. 182. 1) Photographic Library of Australia. 183. 1) Photographic Library of Australia, 185, 1) Western Pacific Railroad Company, 186, 1) Library of Congress, 188, 1) Greg Leech, Missouri Department of Natural Resources. 189. 1) Highlands & Islands Development Board. 2) Highlands & Islands Development Board. 192. 1) Nicholas Devore, Bruce Coleman Ltd. 2) Hutchison Library. 195. 1) Michael Freeman, Bruce Coleman Ltd. 2) Geoff Dore, Bruce Coleman Ltd. 196.1) Britain on View. 197, 1) Wadsworth Atheneum, Hartford, Conn. Bequest of Mrs. Clara Hinton Gould. 199, 1) National Cowboy Hall of Fame. 201. 1) Fionnbar Callanan. 202. 1) Fionnbar Callanan. 203. 1) James Hudnall. 206. 2) Watkins, Woods William A. Hole Oceanographic Institution. 207, 1) Bruce Coleman Inc. 209. 1) Jen and Des Batlett, Bruce Coleman Inc. 2) Paul Thomas, Black Star. 210, 1) Miami Seaguarium, 2) William Hunter, Miami Seaguarium, 211, 1) Larry Smith, Black Star. 213. 1) Matt Herron, Black Star. 215. 1) J. C. Allen & Son. 219. 1) Shostal. 220. 1) Grant Hellman. 221. 1) J. C. Allen & Sons. 224. 1) The Library of Congress. 229. 1) Ron Willocks, Animals Animals. 230. 1) Art Resource. 231, 1) 1952 Harper & Row. 2) Sydney Moming Herald. 233. 1) AA Picture Library. 234. 1) William R. Wilson. 235. 1) Drawing by Robert W. Nicholson, National Geographic Society; copyrighted by the White House Historical Association. 2) Lorenzo S. Winslow, Architect. 236. 1) Manuel Dos Passos, Bruce Coleman Inc. 238. 1) Australian News. 239. 1) Ewing Galloway. 240. 1) Brown Bros. 2) Brown Bros. 241. 1) Mickey Adain, Star File. 243. 1) Slide File. 244. 1) Fionnbar Callanan. 246. 1) Sefton Photo Library. 247. 1) Isle of Wight Tourist Office. 249. 1) Brown Bros. 250. 1) Harper & Bros. 252. 1) Bettmann Archive. 253. 2) NAACP. 254. 1) Wayne Davis. 258. 1) Alex Gotfryd. 259. 1) Pat Lynch, Photo Researchers. 260. 1) Lionel Cherruault, Carnera Press. 261. 1) Universal Pictorial Press. 2) National Gallery. 3) National Portrait Gallery. 263. 1) Wirt Wills, Photo/Nats. 264. 1) Peter A. Harding. 265, 1) Wilton Royal Carpet Factory. 266. 1) Peter A. Harding. 270. 1) Adam Woolfitt, Woodfin Camp, Inc. 3) Tony Freeman. 272. 1) F. Jalain, Explorer. 2) Darrell Jones, The Stock Market. 273. 1) Robert Tixador, Agence Top. 274. 1) Wine Institute. 2) David Moore, Colorific. 275. 2) Spectrum Colour Library. 278. 2) Libwyre Kennel. 280. 1) Cameramann International Ltd. 281. 1) Derek Fell. 282. 1) The Newberry Library, Chicago. 283. 1) MAS. 284. 1) Keith Harding. 285. 1) Leonard Lee Rue III, Keystone. 2) Warren Garst, Van Cleve

Photography. 286. 1) Rolf O. Peterson. 287. 2) Pinchot. 289. 1) Photographic Library of Australia. 290. 1) Bettmann Archive. 291. 1) James R. Simon, Van Cleve Photography. 292, 1) Eric Worrel, Photographic Library of Australia, 2) Photographic Library of Australia. 293. 1) Bettmann Archive. 2) Paul Nightingale/Frank Spooner Pictures. 296. 1) Joseph Rodriguez, Black Star. 298. 1) James A. Sugar, Black Star. 299. 1) Tony Korody, Sygma. 302. 1) Bruce Coleman Inc. 303. 1) Robert Harding Picture Library. 3) Dennis Green/Bruce Coleman. 304. 1) Peter Gonzalez. 305. 1) Konrad Wathe/Bruce Coleman. 2) Frieder Sauer/Bruce Coleman. 310. 1) Britain on View. 311.1) Grant Heilman. 312, 1) Burlington Industries, Inc. 314, 1) Mansell. 316. 1) J. P. Laffont, Sygma. 317. 1) Laski, Sipa Press. 324. 1) J. Pavlovsky, Sygma. 328. 1) J. L. Atlan, Sygma. 329. 1) J. L. Alton, Sygma. 330, 1) Art Resource. 2) Photoresources. 3) Giraudon from Art Resource. 331. 1) SCALA from Art Resource. 2) AP/Wide World. 3) NASA. 332. 1) Art Resource. 334. 1) SCALA from Art Resource. Photoresources. 1) 336. Photoresources. 338. 1) Photoresources. 2) Photoresources. 339. 1) Photoresources. 340. 1) Photoresources. 2) Borromeo from Art Resource. 341. 1) Fred Ward, Black Star. 2) The Avery Brundage Collection (Gemini Smith), 342, 1) Giraudon from Art Resource. 344. 1) Bettmann Archive. 2) SCALA from Art Resource. 345. 1) Werner Forman Archive. 2) Denver Art Museum, Marion G. Hendrie Collection. 346. 1) Gemini Smith, 2) Eliot Elisofon, National Museum of African Art, Timbuktu, Mali. 347. 1) Photoresources. 2) Lee Boltin. 348. 1) SCALA from Art Resource. 350. 1) SCALA from Art Resource. 351. 1) From the Vallard Atlas, The Huntington Library. 352. 1) SCALA from Art Resource. 2) Giraudon from Art Resource, 353, 1) Bettmann Archive. 354. 1) Bettmann Archive. 355. 1) BBC Hulton from Bettmann Archive. 356. 1) NASA. 358. 1) AP/Wide World. 362. 1) Bettmann Archive. 2) Bettmann Archive. 363. 1) Imperial War Museum. 2) Robert Hunt Library. 365, 1) UPI/Bettmann Newsphotos. 368. 1) Gernsheim Collection, Harry Ransom Humanities Research Center, University of Texas. 2) Imperial War Museum. 369. 1) Robert Hunt Library. 3) Robert Hunt Library. 371. 1) Robert Hunt Library. 2) Imperial War Museum. 372, 1) Bettmann Archive. 2) Granger Collection. 373. 1) National Archives. 375. 1) National Archives. 377. 1) Robert Hunt Library, 378, 2) Imperial War Museum, 379, 1) National Archives. 2) Charles Kerlee from National Archives. 381. 1) AP/Wide World. 2) Lee Lockwood, Black Star. 382. 1) AP/Wide World. 383. 1) Ullstein Bilderdienst. 2) AP/Wide World. 3) Keystone. 385, 1) B.B.C. Hulton from Bettmann Archive. 2) Mauritius, Black Star. 3) UPI/Bettmann Newsphotos. 386. 1) Süddentscher Verlag. 2) Uilstein Bilderdienst. 388. 1) Bettmann Archive. 389.1) Süddentscher Verlag. 2) National Archives. 3) Ullstein Bilderdienst. 391. 1) Imperial War Museum, 392. 1) Imperial War Museum. 2) U.S. Coast Guard. 393. 2) U.S. Army. 394. 1)

Robert Capa, Magnum. 2) Imperial War Museum. 396.1) UPI/Bettmann Newsphotos. 398. 1) U.S. Department of Defense. 399. 1) FPG. 401. 1) AP/Wide World. 2) U.S. Air Force. 402. 1) UPI/Bettmann Newsphotos, 2) UPI/Bettmann Newsphotos. 403. 1) Imperial War Museum, 404, 1) National Archives, 2) AP/Wide World. 405. 1) Imperial War Museum. 406. 1) Keystone. 411. 1) E. Foster. Bruce Coleman, Inc. 414. 1) Erich Crichton. Bruce Coleman Ltd. 2) Edifice/Darley, 415, 1) Sylvain Legrand, Agence Vandystadt from Photo Researchers. 416. 1) Allsport/C, H. Petit/Vandystadt. 2) Colorsport. 417. 1) Bettmann Archive. 2) Ed Kumler, Tom Stack & Assoc. 419. 1) Culver. 2) Underwood & Underwood. 3) Underwood & Underwood. 424. 2) D. C. Williamson, London. 426. 1) Collection of Mr. and Mrs. Joseph E. Levine. 427. 1) Wyoming Travel Commission. 2) Keystone. 429. 1) Saint Mary of Nazareth Hospital Center. 2) Larry Mulvehill, Photo Researchers. 430. 1) Eastman Kodak Company. 432. 1) Field Museum of Natural History, Chicago. 434. 1) Gerald Cubitt, Bruce Coleman Ltd. 437. 1) Lynn M. Stone, Animals Animals. 439. 2) Shostal. 443. 1) Courtesy of the National Gallery of Ireland. 444. 1) Ewing Galloway. 2) Alainle Garsmeur/Panos Pictures. 445. 2) Roger Wilmshurst/Bruce Coleman. 446. 1) William S. Keller, Yellowstone National Park. 2) William S. Keller, Yellowstone National Park. 447. 1) Tom Edwards, Animals Animals. 2) C. De Keerl, Gamma/Liaison. 448. 1) A. Tessore, Shostal. 449. 2) Robert Harding Picture Library. 450.1) Michael Jenner, Robert Harding Picture Library. 452. 1) G. G. Hunter/Bruce Coleman. 454. 1) Shostal. 2) Spectrum Colour Library. 455. 1) Spectrum Colour Library. 456. 1) United Press Int. 457. 1) Colour Library International. 2) Colour Library International. 459. 1) Sefton Photo Library. 460. 1) Britain on View. 461. 1) Gene Ahrens, Bruce Coleman Ltd. 462. 1) United Nations. 464. 1) Y.M.C.A. 465. 1) Y.M.C.A. 466. 1) Fionnbar Callanan. 468. 2) Inner London Education Authority. 470. 1) Shostal. 471. 2) Sipa Press. 473. 1) William Parker. 475. 1) Jana Schneider, Sipa Press. 476. 1) Artstreet. 477. 2) Wayne Townss. 478. 1) Brown Bros. 480. 1) Wide World. 2) Jacques Jangoux. 481. 1) Pascal Maitre, Odyssey from Matrix. 483. 1) Harrison Vioujard, Forman. 2) Christian Gamma/Llaison. 484. 1) Jacques Jangoux. 2) Agence Hoa-Qui from Torn Stack & Assoc. 485. 1) Agence Hoa-Qui from Torn Stack & Associates. 488. 1) Robert Harding Picture Library. 2) Robert Harding Picture Library. 489. 1) Guiseppe Mazza. 492. 1) Michael Blackman, Camera Press. 2) Audrey Topping, Rapho Guillumette. 495. 1) Cameramann International, Ltd. from Marilyn Gartman. 496. 1) Bruce Coleman. 497. 1) Robert Harding. 500. 1) Cameramann International Ltd. from Marilyn Gartman. 501. 2) John Sanford, Science Photo Library, 503, 1) Kenneth W. Fink, Bruce Coleman, Inc. 2) Robert H. Glaze, Artstreet. 3) Robert H. Glaze, Artstreet. 507. 1) Oxford Scientific Films/Tony and Sheila Phelps, 509, 1) Shostal.

